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PART I.

ORIGINAL COMMUNICATIONS.

I.

An Historical Enquiry into the Origin of the Venereal Disease.
By H. Robertson, M. D.

PART II*.

I shall now proceed to shew that a disease strongly resembling Syphilis, in its most common appearances, has been prevalent from the most remote ages; and which not only resembled it in symptoms, but in the manner in which it was propagated, and most probably in the way it was cured.

In our researches into the writings of the ancients for the symptoms of Lues Venerea, we are not to expect to find them detailed in the successive order of their appearance. The want of a correct knowledge of the circulation, and the total ignorance of those authors of the existence of the lymphatic system, preclude the possibility of that circumstance, as it is entirely owing to the acquaintance of modern writers with these functions, that they have acquired so decided a superiority in their pathological inquiries.

There are several places in the works of Hippocrates that seem to describe diseases, the symptoms of which at least bear the strongest resemblance to those of Lues Venerea. In the 4th and 6th Books of his Epidemics, he speaks of ulcers of the palate, which, corroding the bones, cause the nose to fall down, and

* *For Part I. see Repository,* Vol. II. p. 119.

the teeth to drop out. In other places of his writings he treats of ulcers, and tumours of the private parts; buboes, diseases of the urinary organs, ulcers of a malignant kind upon the head, with a falling off of the hair. He speaks also of the matrix becoming inflamed, purulent, full of phlegm, ulcerated, and cancerous. In some editions of his writings, there is, in the 2nd Book of Prorrhetics towards the end, mention made of a disease called Phthenic; some suppose it should be written Phenician disease, which Le Clerc supposes resembled Lepra or Elephantiasis; as Hippocrates makes no particular mention of that disease. Accordingly, Blomberg and others suppose, "that whenever Hippocrates or Galen wrote on diseases arising from the existence of yellow bile in the liver, black bile in the spleen, blood in the heart, and pituita within the head, from which humours, ulcerations, nodes, and tumours of the bones occur; and sometimes convulsions are excited: in all such instances these authors treat of this complicated disorder."

Celsus has likewise several chapters on Affections of the Genitals, Tumours of the Groin, &c. which bear the strictest resemblance to the Venereal Disease in its incipient stage; but, like those given on the same subjects by Hippocrates, they are described under specific chapters.

Aretæus gives a description of Gonorrhœa, of which he says "Morbus turpis est, et causa omnium morborum," an assertion, by which that accomplished physician would not have committed himself, had he not found it the concomitant or forerunner of certain constitutional symptoms. He gives a minute description of Elephantiasis, and it bears the strictest resemblance to the symptoms of a constitutional Pox.

It was about the time of Aretæus, that Pliny says the Elephantiasis first appeared in Italy, under the Consulate of Pompey; and from this time downward it is regularly treated of by physicians. Pliny also mentions another disease that broke out for the first time in the reign of Tiberius, which seems to resemble the Neapolitan Disease; he calls it Colum: but which is not taken notice of by any author subsequently, and probably it soon disappeared. That part of the works of Cœlius Aurelianus, which treated of gonorrhœa and diseases of the genitals, is last, and as such it is noticed in the Index.

It is perhaps rather a matter of curiosity, than decisive of the opinion I entertain of the origin of the Venereal Disease, that I give the following quotation from Boëthius de Consolatione Philosophiæ, upon the idea that it alludes to some peculiar disease acquired as it is: he says, "Quid autem de corporis voluptatibus loquor, quarum appetentia quidem plena est anxietate, satietas vero penitentiæ? quantos illæ morbos, quam intollerabiles dolores, quasi quendam fructum nequitiæ, fruentium solent referre corporibus: quarum quid habent jucunditatis

ignoro. Tristeis vero esse voluptatum exitus, quis-quis reminisci libidinum suarum volet intelliget." The next author I shall mention who speaks of what I suppose to be venereal complaints, is Leonida, two or three chapters of his works being handed down to us by Aetius, which treat of affections of the penis and anus; of gonorrhœa, with ardor urinæ; but he is totally silent regarding the causes of them.

I shall not stop to enumerate the symptoms of resemblance between the Venereal Disease and Lepra, as described by the Arabians. In the works of Fracastorius, Fernelius, and Paræus, the symptoms characterizing both diseases are detailed at full length; and there, besides their appearances, their cause, progress, and mode of termination are perfectly similar. I must however observe, that the term Elephantiasis is applied by the Greeks to designate the same disease which the Arabians call Lepra, and which is very different in its nature from the diseases to which that term is applied at the present time. Avicenna treats very fully of Lepra, which he imputes to many internal causes, the explanation of which is now nearly unintelligible. He mentions a disorder under the chapter De Multitudine Seminis, which is a clearly defined gonorrhœa virulenta; and he also treats of ardor urinæ, ulcers of the penis, and diseases of the testicles: for their cure he recommends caustic remedies, and even amputation in bad cases. In describing the cause of the ardor urinæ, besides other circumstances, he says, "et ex illis quæ finiunt eam est multitudo coitus;" and he seems likewise to suppose that it was generally accompanied by some constitutional complaint, for which he recommends opiate and demulcent remedies with *injections.* He also speaks as if he thought the ardor urinæ and ulcers of the penis were occasioned by the women using an improper position during coition, and by that means they brought on what he calls an "*inflation and ulcers of the urethra.*" There are other parts of Avicenna's works that seem to treat of venereal symptoms, which, after what I have said, I presume it will be superfluous for me to quote particularly.

Arnoldus de Villa Nova enumerates the following diseases as only differing in degree: Alopecia, Phthyriasis, and Elephantiasis: he mentions also ulcers of the yard, and gonorrhœa, with ardor urinæ, without assigning any cause for their appearance. Treating of the cause of barrenness, he recommends to his patient that "debet etiam vitare nimiam crapulam, ebrietatem, quod expedit tam viro quam mulieri, debet etiam vitare inanitionem, sicut nimiam phlebotomiam, frequentem pharmaciam, frequens balneum, et coitum specialiter cum vetula, et menstruosa, et cum fœtida, et tineosa, et immunda." Rogerus, about the 12th century, wrote a book on physic, wherein his chapters

de Rheumatizatione Virgæ, and de Lepra, seem evidently to refer to symptoms resembling those of the Venereal Disease. Brunus Longobardensis published his Surgery about that time, in which he has a chapter de Cura Bubonis; another, de Verrucis accidentibus in virga et alia parte corporis; and it seems probable that in the former chapter at least he alludes to Syphilis, as he remarks that the cure must be commenced by correcting and purifying the system. Theodoricus likewise treats of similar affections upon similar principles.

Langfrancus has the whole 11th chapter of his 3d Treatise taken up with the description of symptoms, which alone would in my opinion set at rest the question respecting the antiquity of the Venereal Disease. It is intitled de Apostematibus Inguinum, quæ sæpe proveniunt propter ulcera virgæ et pedum; in another chapter of the same Treatise, he says, "Ulcera veniunt ex pustulis calidi virgæ supervenientibus, quæ postea crepantur, vel ex acutis humoribus locum ulcerantibus, vel ex commixtione fæda muliere, quæ cum ægro talem patiente morbum de novo coierat." In this way he points out the distinction that is necessary to be attended to, in ascertaining whether the disease takes place or not, as the consequences of impure coition. And as a further proof that he was fully acquainted with the infectious nature of this last description of causes of ulcers of the penis, he recommends the following judicious treatment as a means of preventing its effects, thus—"Si quis vult membrum ab omni corruptione servare, cum recedit à muliere quam habet suspectam de immunditia lavet illud cum aqua cum aceto mixta."

Froissart says, that Robert 1st of Scotland died of the "Grosse Maladie," a term that is applied by others to the leprosy, and subsequently to the 16th century was also used to designate the Venereal Disease. I therefore infer that the same appellation applied to diseases supposed to be so specifically different, adds considerably to confirm the opinion I have formed of their identity.

Gordonius lived about the beginning of the 14th century, and speaking of what I suppose to be the Venereal Disease, he says, "Passiones virgæ sunt multæ, sicut sunt apostemata, ulcerationes, cancri, inflatio, dolor, pruritus. Aut sunt exteriores, aut interiores, exteriores sunt casus, percussio, aut jacere cum muliere cujus matrix est immunda, plena sanie, aut virulenta, aut ventositate, et similibus corrupta." Of the Leprosy he observes, "Lepra enim aut introducetur ab utero, aut post, si post uterum hic est quia aer est malus, corruptus, pestilentialis, aut quia continuavit cibaria melancholica, et provenit quoque ex nimia confabulatione cum leprosis, et ex coitu cum leprosa, et qui jacet cum muliere cum qua jacuit leprosus,

semine adhuc in matrice existente." In proof of the correctness of his opinion he gives the case of a physician, who had connexion with a young countess ill of leprosy, and got her with child; at the same time he contracted the distemper in a most virulent degree: and in this state Gordonius received both the lady and her lover into his house. By the first part of the above quotation, it appears that Gordonius admits that gonorrhœa, and every other primary affection of the genitals, may be acquired by having connexion with a leprous person. But Schopfius, a German, most unequivocally states this fact: one of his instances of this, is the case of a carpenter in the Marquisate of Baden, who contracted gonorrhœa by having connexion with a leprous woman. This being admitted, it at once establishes my opinion of the nature of leprosy. An account similar to the above is to be found in the writings of Valascus de Taranta, who lived about 1400, and he perhaps first renewed the doctrine of the propriety of castration as a preventive of leprosy. He likewise, with almost every other writer who treats of that disease, says, that eunuchs were never affected with it; women more rarely than men, and young men were more liable to it than the old. Every person knows that this is precisely the case with the Venereal Disease of the present day. Valascus likewise remarks that the leprosy is more frequent in Africa and in Spain, than in the rest of Europe; which I rather think is still the case in these countries in respect to Syphilis.

To the above I might add a quotation from Philonius and others to the same effect; but as it is merely a repetition of his own experience, and accords with the opinions of preceding writers on the subject, I shall omit it, and proceed to make some observations on the statements of those authors who have treated of leprosy immediately subsequent to the disappearance of the Neapolitan Disease, in which the identity of the Leprosy and of Syphilis will be still further shewn. But before I adduce these observations, I must refer to the 30th and 31st volumes of the Philosophical Transactions, for an enumeration of facts brought forward by Mr. W. Becket in confirmation of the identity of these two diseases, so far as regards their appearance in this country. We have likewise similar proofs to what he adduces of the existence of the Venereal Disease long prior to the discovery of America, by ordinances of the Parliament of Paris respecting the management of those found affected with this infectious distemper. In the writings of William of Malmesbury there is the account of a nobleman (Baldwin) who possessed Jerusalem, who put away his wife because she had infected him with a cancerous affection of the genitals, similar in description to the Venereal Disease; and

surely he would not have proceeded to that measure, had he not supposed his wife could only have contracted that disease by adultery.

There is likewise an ordinance given out by Queen Joanna of Sicily, in 1347, intitled, "De disciplina lupanaris publici Avenionensis," for the purpose of preventing the spreading of the diseases of the genitals. I have already remarked that in the course of the 14th century, physicians began to confound the Venereal Disease, or Leprosy, with the Neapolitan pestilence as it began to decline; and as they became better acquainted with the nature of the Venereal Disease towards the succeeding century, we find descriptions of Leprosy gradually disappear from their writings. The celebrated Ambrose Paré, who lived about the year 1560, treats minutely of both diseases under the same head; and of the Leprosy he has the following opinions, which are decisive of the ideas I have formed of the nature of that complaint: of the first he observes, "Elephantiasis est soboles Luis Venereæ." And again, when speaking of the Venereal Disease, he continues, "Longe pejus illis agitur, quibus inde nata Elephantiasi totum corpus deformatum, putridis et cancrosis ulceribus pharinx, larinx, totaque gula corrodetur, capillus defluit, rimis serpiginosis, et squamosis, et pedes fatiscunt, &c." These observations from such authority will I imagine appear to the unprejudiced, as at least shewing the impossibility of distinguishing Lepra from Lues Venerea, if it does not unquestionably establish their identity.

That Leprosy has disappeared from the works of physicians, is owing to our more correct opinions respecting it: and as a proof of its being the Venereal Disease in its most aggravated systematic form, the disease named Lepra and Elephantiasis is very commonly met with in countries where the mode of curing the Venereal Disease is less perfectly understood, especially in climates where the greater temperature causes a greater derivation to the surface. (See *Neihbur's Travels—Ulloa's Voyages—Volney.*)

I have hitherto confined my observations regarding the antiquity of the Venereal Disease to what may be called European testimony; but we have likewise proofs in confirmation of the view I have taken of the subject, from circumstances shewing that the Venereal Disease has existed in other quarters of the globe from the earliest antiquity. For these documents we are principally indebted to the zeal of Astruc, who has been at much pains in collecting facts regarding this question.

In a Dissertation annexed to the 1st volume of Astruc's Treatise on the Venereal Disease, it there appears from the answers to the questions he proposed to Foureau Commendator, and other Jesuists, missionaries to China, that the Venereal

Disease has existed in that empire far beyond the date of their earlier writings on the disease. Foureau says, "Censent Sinenses Medici Veneream Luem ab omni vetustate in Sinico Imperio grassatam fuisse: et sane libri de rebus Medicis Sinensis scripti, quos antiquos esse prohibent, de ingressu illius morbi alte silent, immo in illis Luis Venereæ mentio fit, ceu morbi jam vetustissimi hoc ipso tempore quo illi libri scribebantur. Proinde neque notum id mali in fori insectari fuisse, neque verisimile est. Certe nulla ratione argui posse puto ex vocabulis quibus Sinica appellatur et de quibus supra responsa."—The Venereal Disease is likewise very frequent in the remote parts of India frequented by European intercourse, as at Boulak: See Philosophical Transactions for 1779. It is now again believed that the Venereal Disease prevailed in the Islands of the Pacific Ocean before they had been visited by Europeans. This was Captain Cook's opinion; though circumstances were wrested in their explanation in order to serve the purpose of bolstering up a particular theory. (See *Critical Review*, vol. 5 and 10, New Series.)

In Dr. Beddoes' Contributions, (p. 411,) there is a reference to a Thesis written by I. G. Klein, "*Tranquebarra—Dani Spec. Inaug. de morbi venerei curatione in India Orientale, Hafniæ*, 1795;" in which Dr. Klein supports an opinion that the Venereal Disease was known in India at a very remote period. The ancient medical writers of that country, Sangarasiar and Alessianambi, make mention of it, and of its cure by quicksilver 970 years before. And more ancient writers still, as Tanmandari, Achastyer; Tirumuler Poger, speak of its history, symptoms, and mercurial treatment. Dr. Klein observes that, as the name "*Moecha Wiadi*" is a Tamul word, and occurs in the works of those writers, it must be at least 1000 years since the time they lived.

It would likewise appear from Kenetus that the Venereal Disease prevails even in the interior of Africa; he says, it is there called by the Æthiopians, Zail, or Borozail. His words are, "In utraque ora fluvii Senegæ multa esse regna; precipue in ea quæ meridiem spectat, regnum Mely; in ea quæ septentrionem regnum Tombotu. Morbus qui illic frequentius grassatur, Borozail nominatur, aut Zail, Æthiopia lingua, qui ex immodica venere (cui multum sunt obnoxii) ortum habet. Genitales partes potissimum is occupat, in homine aseb, femina assabates nominatus. Ad hujus morbi curationem decoctis multis utuntur, sed potissimum decocto herbæ quæ acancea dicitur, perinde ac nos guaiaco." Bontius speaks of the Venereal Disease nearly in the same way as it appears in the Moluccas, Amboyna, &c.

I have thus drawn up an outline of the facts which present themselves, as establishing the existence of the Venereal Disease in every quarter of the globe from the remotest antiquity; and the authorities I have given will, I have no doubt, carry a similar conviction in the minds of every person. No doubt, in the works of the authors which I have quoted, the symptoms of the disease are not uniformly the same. Climate very materially influences the appearances of this disorder; even the changes of seasons have the same effect. It is to these circumstances I imagine the confused manner of the earliest writers who treat of this disease is to be ascribed, together with the cause I have formerly suggested for this irregularity. But in every country the disease is acquired in the same way; its leading symptoms are the same, and it yields to the same kind of treatment.

⁂ It is not our wish to comment on any papers with which we may be favoured; but we should conceive it to be a dereliction of our duty, were we to allow the observation in the last sentence of Dr. R.'s paper, to remain unnoticed. It must be well known to many of our Readers, that climate makes a marked difference in the leading symptoms of Syphilis Thus, in warm climates, the Brazils for example, the symptoms are such as to allow the disease to be more frequently cured without the use of mercury, by the antisyphilitic woods alone: and we are informed by Mr. Ferguson, the Inspector General of the Hospitals of the late Portuguese Army*, that that is also the case in Portugal, owing to the virulence of the disease being almost exhausted in that country. "The disease," says he, "in its primary state, is curable in Portugal without mercury. The antisyphilitic woods, combined with sudorifics, are an adequate remedy for constitutional symptoms; the quantity of mercury being always insignificant, and often altogether omitted: or, the virulence of the disease has become so much mitigated by reason of general and inadequately resisted diffusion, or other causes, that, after running a certain (commonly a mild) course, through the respective order of parts, according to the known laws of its progress, it exhausts itself, and ceases spontaneously."—p. 5.—Editors.

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* *Medico-Chirurg. Trans.* vol. iv.

II.

A Description of the Salt Lakes and Rock Salt of Russia. By C. T. Herrmann.

(*Continued from page* 123.)

III. *Salt Lakes of the Crimea.*—The Crimea is rich in salt lakes. They consist of

1. The lakes of *Perecop*, upon the isthmus, of which there are several, but salt is taken from three of them only, which are much frequented.

2. The lakes of *Guenitschesk*, upon the defile of Arabat, where the sea of Sivasch unites itself to that of Asov. One only of these lakes is frequented, but it is very large.

3. The lakes *Prognoinie*, or marshy lakes, upon the coast of Kinbourn; they are numerous, but yield a salt which is sometimes bitter, and not very marketable.

4. The lakes of *Eupatoria*, of which there are seven, but one only, named Sac, is frequented.

5. The lakes of *Feodosia*, named Aliuski and Scheikale.

6. The six lakes of *Kertsch*, one of which, named Tschokrak, is very much esteemed by the inhabitants of Anatolia.

7. The lakes *Berdanskie*, upon the sea of Asov, near the fort Petrouskoi, which are not much frequented, as they do not yield salt every year.

The lakes of Perecop, Guenitschesk, and Kinbourn, are also named the *exterior lakes*, while the others receive the appellation *interior;* the first mentioned having been formerly reserved for supplying Russia with salt, while the wants of the Crimea were provided for by the last, and the surplus sold to strangers.

These lakes are covered during the whole of the year with a very strong brine, which deposits salt from the month of June till September, when the rains usually begin to fall and melt the salt. But it sometimes happens, although rarely, that the rains and the wind at other seasons destroy the salt, or rather prevent the lakes from depositing their salts, as happened in 1805. On this account it is regarded as always proper to form depots upon the lakes, by which is meant heaps of salt piled in the open air. In good years the salt of these lakes is so abundant, that it would be sufficient for the supply of the whole of Russia.

The quality of the salt of the Crimea varies according to the lakes. Those most frequented yield a salt resembling that of Elton, but very inferior.

IV. *Salt Lakes of Koraekou and Aleousk.*—"Upon the frontier of the government of Tobolsk beyond the Irtisch,

are found many lakes, named *Koraekouskie* and *Aleouskie* from the forts of Koraekou and Aleousk, which are the depots of their salt. Some other lakes in this quarter are named *Severnie* (northern) and *Borovie.*

The *Koraekouskie* lakes are eight in number, at the distance of twenty versts (nearly 13 miles, 2 furlongs, English) from the fort of Koraekou; but it should be observed that one of them only, which is named the lake of *Koraekou*, is used.

The *Aleouskie* lakes are two hundred and twenty-three versts (147 miles, 5 furlongs) from the fort of Aleousk. The salt which is obtained from them and deposited in the secondary magazines of Tobolsk, is two years on the road. These lakes are six in number, but salt is taken from one of them only, which is named *Bourlinskoe.*

The Severnie and Borovie lakes are seven in number, and situated about one hundred and forty versts (rather more than 89 miles) from Semipalatinsk.

These lakes are very productive, but a limited quantity only of salt is drawn from them, viz.

From the lake of Koraekou...........	900.000	poods.
Bourlinskoe.........	100.000	
the lakes Severnie and Borovie	20.000	
Total..........	1.020.000	poods*.

In quality, the salt resembles very much that of Elton. But there are others of this district of lakes that yield an impure and bitter salt, which is employed under the name of Siberian salt.

V. *Salt Lakes of the Oural and Manitsch.*—1. Along the course of the river Oural, from its mouth near the town Gourjew to the little borough Hetzk, are found many very rich salt lakes, the most considerable of which is the lake Inderskoe.

The salt furnished by these lakes is of a very good quality.

2. As to the salt lakes of *Mânitsch*, they derive their name from the little river Manitsch, which has its source in the steppe of the Caucasus and falls into the Don near the Tscherkask. Upon the banks of this river three salt lakes are found, where the salt is deposited in the months of June and July. These lakes are 9,13 and 21 versts† in circumference, and are very rich when the summer is warm. The rains and winds destroy the salt.

The salt of these lakes is very good, but it is much mixed with slime, and consequently not much esteemed.

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* For the value of the pood in English, see *Note*, p. 120.
† The verst is 3.500 feet, English measure.

VI. *Salt Lakes of Jevelei, Touasakoul, and Borinskoe.*— The lake *Jevelei* is situated in the steppe of the Kirgiskaisaques of the middle horde, upon the frontier of the government of Orenbourg, in the vicinity of the sources of the Tobol. The road which leads to this lake passes a considerable distance into the steppe, and is traversed by many rivers. There is no other fresh water near this lake, except what is procured from a small lake, which does not suffice for the necessities of the salt carriers. They are, therefore, obliged to bring their water from the distance of seven versts, (about 4 miles, 4½ furlongs,) where there are springs and some fresh water lakes, which are full of fish.

When the summer is hot, the supply of salt is abundant, but it sometimes happens that the salt does not crystallize at all. This salt is sufficiently pure and of a good quality.

The lake *Touasakoul* is situated in the government of Orenbourg upon the line on the frontier of Tobolsk, upon the road which leads to Troisk. This lake does not always yield salt. Sometimes several years pass without any being found, for the least rain destroys it. At other times almost 60.000 poods are collected. Plans have been formed for procuring this salt by boiling, but they have not yet been put in practice. The quality of the salt is very ordinary.

The lakes *Borsinskoe* are situated in the government of Irkoutzk in the circle of Nertschink, at 201 versts (133 miles, 420 yards) from that town, between the hamlets Orgounsk and Tschitinsk, at seven versts (4 miles, 4½ furlongs) from the little river Borsi.

The salt crystallizes from the middle of April till the middle of May. The supply is seldom abundant, and sometimes five or six years pass without any being found; for it is only during a continued and excessive heat that this salt is formed. The north and north-east winds which often prevail throughout the year in these countries, generally destroys the salt of this lake, which is otherwise very good.

A General Table *of the mean quantity of Salt obtained from the Salt Lakes of Russia.*

Salt.	Quantity in Poods.	Quality.
1. Of Astrachan...	875.000	The best in Russia
2. — Elton........	8.500.000	Of a good quality, but grey.
3. — Crimea.......	5.000 000	The same.
4. — Koraekou...	1.000.000	The same.
5. { — Oural and Manitsch }	Quantity unknown.	Some very white, some grey.
6. — Jevelei.......	150.000	Sufficiently pure.

II. Of the Salt Rocks.—The mines of rock salt in Russia, the principal of which are those of *Iletzk* and *Tschaptschatschi*, are extremely rich.

1. *Rock Salt of Iletzk.*—The mine of this salt is situated upon the little river Ilek, which flows through the steppe to beyond the Oural, at seventy-two versts (about 47 miles, 5 furlongs) from Orenbourg. This salt appears about two archines (4 feet, 8 inches) under the surface of the ground; the beds extend nearly seven versts in circuit, but their depth is still unknown. The salt is in general very pure and very white; nevertheless the degree of hardness and whiteness varies in different beds, in some the salt being as hard and brilliant as crystal. This is therefore one of the richest mines of rock salt in Europe.

The salt of Iletzk has been known only since 1736, when a fort was constructed near the mine under the name of Iletzkaja: Saschita (the safe guard of Iletzk), and some redoubts upon the road, extending thus far the military cordon. Before the line of Orenbourg was established, this salt was comprehended under the general name of salt of the steppes.

The salt is dug up by exiles, and transported by land to Orenbourg, Oufa, and Sterlitamac, a port upon the river Bieloje, where were the first magazines, and whence was supplied the whole government of Orenbourg, except the towns of Gelaebi, Troitzk, and Werchouralsk, and the borough of Kourtamisch, which is situated at the foot of the Oural. The distance of these towns from the magazines, the badness of the roads, and above all the little security there was from the attacks of the Nomades people, rendered it requisite that they should be provided with the salt of Koraekou.

2. *Salt of Tschaptschatschi.*—The hills named Tschaptschatschi, in the Kalmuc language, are situated upon the left bank of the Volga, in the steppe of Oural, one hundred and twenty-three versts (rather more than 81 miles, $3\frac{1}{2}$ furlongs) from the town Jenotaewsk, one hundred and seventy-nine versts from Astrachan, and from seventy to eighty versts (about 116 miles, and 5 furlongs) from the borough town Selitra, upon the Achtouba.

The group consists of a principal mountain, about two versts (1 mile, 2 furlongs, and 72 feet) in length, and six (nearly 3 miles, $6\frac{1}{2}$ furlongs) in circumference, surrounded by many hills, nearly a verst (3.500 feet) distant from each other. The salt is found under these hills, in beds of from one to two archines (from 2 feet 4 inches to 4 feet 8 inches) in thickness. It is harder than that of Iletzk, and of a superior quality, but a little more grey in colour. The earth which covers it is sand intermixed with clay, which is as hard as stone in those places where it touches the rock salt.

This mine was discovered in 1767, but it has never been worked, owing to the hills being very far advanced into the steppe, and the necessity there would be to have a fort and a cordon of troops established for the security of the work. Besides, the vicinity is uninhabitable, being altogether destitute of water and wood; and the beds of salt appear to be very irregular, which would render the working extremely difficult and expensive. There is also no want of salt either in the immediate neighbourhood, nor at Astrachan, nor upon the lower Volga.

There are besides many and very extensive salt works in different parts of Russia, the whole of which yield about 6.798.500 poods of salt annually, viz.

From the mine of Iletzk	400.000	poods.
salt works of Perme	4.500.000	
Dediouchina	1.000.000	
Wologda	185.000	
Novogorod	220.000	
Archangel & Olonetz.	281.500	
Siberia	212.000	
Total	6.798.500	poods.

There were several other salt works, which yielded about 800.000 poods of salt annually; but these have, of late years, been abandoned.

III.

History of a Case of Hydrophobia. By Robert Masters Kerrison, Member of the Royal College of Surgeons, and of the Society of Apothecaries, London.

Two laudable motives, usually, conspire in giving publicity to the successful treatment of formidable diseases, or of those of rare occurrence; the desire of being useful, and self-gratulation at having devised the means by which the cure was accomplished. But, although an unsuccessful case, however interesting and instructive, is too often consigned to oblivion by a natural feeling of discouragement at the failure of earnest endeavours, and the fear of incurring censure; yet, such is the state of the medical art, that more useful knowledge may be frequently conveyed by the detail of an unsuccessful case, than of those attended by the happiest results. The mariner is not less instructed by the rocks and shallows described on his chart, than by the depths, which conduct him safely into port.

Of the nature of the virus, which excites a febrile state of the system terminating in hydrophobia, we are perfectly ignorant: I therefore, on this occasion, marked every symptom and every association of morbid action with great attention; and hope that the following case may present some points worthy of consideration, both in illustrating the progress of the disease, and the inadequacy of the means employed for its removal.

Thursday, July 7th, ult. at 7 P.M.---Simon Simmons, eleven years of age, was brought by his mother, from Tyler Street, Carnaby Market, to my house, a distance of about 200 yards. He was indisposed: the countenance appeared heavy, the pulse was rather quick, and the tongue slightly furred. On noticing a brown spot on the skin of the upper lip, and another on the forehead over the left eye, his mother said, that, *five* weeks ago, he went into the street to call in a large dog, which belonged to a relation who had come from Exeter, when the animal bit him, and that these were the scars*.

The mother had taken her child to Mr. Astley Cooper *the day after* the accident. He inquired whether there was any suspicion of the dog being mad; and receiving no positive information on that point, applied the potential cantery to the wounds. They were soon healed.

The dog went away at the time of the accident, and did not return until a week afterwards; but being a fine animal, it was supposed he was forcibly detained, as he appeared pleased and quite well. He remained at home during a fortnight, and took his food as usual, then left the house, and has not been heard of since. He was of the Newfoundland-breed, and had been bitten in the leg by a strange dog, in Carnaby Street, a week before he bit the child. It is not known whether the dog that bit the other was rabid.

Upon the first appearance of indisposition, *this morning*, the mother gave the child some castor oil, which had operated twice. I ordered him three grains of calomel, and a purging draught with infusion of senna, &c. to be taken an hour afterwards; and requested to see the boy the next morning. No abhorrence of liquids had been observed at this time.

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* It has been insisted upon, in a paper by Dr. Godelle of Soissons, read to the Athénée de Medicine de Paris in December last, that the symptoms of hydrophobia appear more or less quickly, according to the proximity or distance of the inoculated part to the salivary glands. He therefore regards bites on the face as more dangerous than those on the lower extremities, and adduces proofs in support of his position.—EDITORS.

Friday, July 8th, 10 A. M.—The boy had not drank all the draught, and was sick last night after taking it; the mother believes he vomited all he had taken. One stool however had been procured in the night. He had shewn great difficulty in drinking his tea at breakfast. There was dulness of the eyes and languor of the countenance, with a furred tongue and hurried pulse.

I now suspected the boy was under the influence of hydrophobia; but as it was considered necessary to prove its existence, before any intimation of the suspicion was conveyed to the mother, or any language used which could alarm the boy, a goblet of spring water was brought, and he was requested to drink. He took hold of the goblet, and attempted to drink; but as soon as the glass approached his lips, a convulsive motion of the muscles of the fauces and throat prevented him from swallowing a drop of the liquid: he renewed his efforts, but without success. He was nevertheless requested to make a third attempt, and now got down about a table spoonful.

The disease was thus rendered too obvious to admit of doubt. The mother was apprised of it; and, in this state of incipient mischief, I recommended her to take the opinion of Dr. Hooper, to which having assented, I accompanied them to his house in Saville Row.

After having heard the preceding account, Dr. H. procured a goblet; and whilst the water was gushing from a reservoir in the room into the glass, two distinct convulsions of the muscles of deglutition were remarked, corresponding in time with two strokes of the pump-handle by which the water was raised. When the boy attempted to drink he shuddered, and threw back his head several times; and the vessel was then taken from him, without his having tasted its contents. He was perfectly free from delirium, and seemed to be of a placid disposition, having done, without reluctance, every thing that he was ordered to do. He walked home with his mother.

It was considered absolutely necessary to proceed, without delay, to the employment of active means for the relief of our little patient, who was of a slender make, and, altogether, appeared to be a delicate child.

Fourteen ounces of blood were directly drawn from the arm; and an enema, containing one hundred drops of Tinct. Opii in four ounces of water, was administered immediately afterwards. A powder, consisting of one grain of Argenti Nitras and three grains of musk, mixed with six of sugar, was ordered to be repeated every six hours; a dram of Ung. Hydr. fort. to be rubbed in on the abdomen, and repeated every three hours; and a lotion, made of Sp. Æth. Comp. f ℥i. Acid. Acet. f ℥ iii. and Aq. Distillat. Oi., to be applied to the

anterior part of the throat by a piece of folded linen, and kept constantly wet.

One P. M.—The enema is retained. He has remained in bed; slept at times, and waked alarmed; but he is not delirious.

Five P. M.—The clyster is still within the rectum. The boy has been dozing at intervals, and he is now asleep. There is a constant, and equal convulsive action of the muscles under the chin, and about the *Pomum Adami.* On feeling his hand, he awaked with surprise; but, in a moment, was quite collected. The pulse is 108, and moderately strong. The mother says he has taken some sago since one o'clock, and drank milk and water. On presenting a wine-glass of water, at this time, he drank a little of it with less difficulty than at eleven o'clock.

Half past six P. M.—An increase of pulse and an aggravation of the spasmodic symptoms being perceived, ten ounces of blood were taken, and another enema, containing 180 drops of Tinct. Opii in two ounces of water, injected. The powders, ointment, and lotion, had been continued as directed. A noisy breathing, whilst he was dozing, was now perceptible, and the tongue was involuntarily, but not violently, acted on by the convulsive efforts of the muscles connected with its posterior part. This became visible during his slumbers, when the mouth was partly open; for the tongue was observed to be propelled and retracted in exact time with the motions perceived on the anterior part of the throat.

Ten P. M.—There has been much dozing since my last visit, with sudden starts; and there is now a confused state of perception, when awake. The pulse is 110, but considerably weaker. It feels more like a sinking pulse in Typhus, than the vibratory stroke of the artery in fever from local inflammation. Same medicines continued.

Saturday 9th, half past 8 A. M.—My patient passed a restless night. The debility is much increased; the convulsive twitches are stronger; he lies almost constantly in a muttering slumber, and, when awake, is in a state of delirium. Some sago had been taken in the night. A cathartic powder with calomel was directed to be given.

Ten A. M.—The powder had produced a copious motion within an hour; there was now an unmeaning stare and wild motion of the eyes, alternately dropping into slumbers and starting, as if the child was under the influence of fear. Fifty drops of Tinct. Opii were given at this time, and forty more an hour afterwards.

Twelve at Noon.—There was no change of the symptoms, except that a secretion of frothy saliva was apparent, which

seemed to give trouble as the boy put his fingers to his lips and endeavoured to pull it from the mouth*. The gums were inspected, but no indication of mercurial influence could be perceived. A large blister was ordered to be applied to the head.

Two P. M.—There are now violent contortions of the body and limbs, with perfect delirium, and the saliva is evidently inconvenient. He has not been able to swallow any thing since he took the sago, except the medicines.

Half past three P. M.—The convulsions are very strong; the frothy saliva abundant; and the pulse irregular and sinking. Let twenty drops of Tinct. Opii be taken every half hour. One dose was immediately given with much difficulty. It was obvious that the disease was verging to its termination. A spasm very soon came on, which interrupted respiration for a short time, with a temporary cessation of the pulsation at the wrist. Respiration, however, returned, and the motion of the carotid arteries was visible: but, in about a quarter of an hour afterwards, a renewal of the spasm proved fatal.

OBSERVATIONS.

Although nothing attempted for the removal of this disease had any very marked beneficial effect, yet the pulse was reduced by the bleeding; and I presume that the muscular constriction of the throat was temporarily lessened by it and the other means employed, because the boy swallowed with greater facility for a few hours. But when the arterial action increased towards evening, the second bleeding lowered the vital powers, without causing a proportionate decrease, or any alteration in the association of morbid actions. The loss of more blood would certainly, in my opinion, have hastened the fatal termination.

Much solicitude was excited by this case, and every endeavour exerted to give full effect to the means employed. The enemata were administered, and the medicines generally given in my presence, or in that of Mr. Reynolds, my assistant, who was frequently with the patient, and in the room at the close of the scene. On his correctness and discrimination I can rely with confidence.

The successful treatment of some cases of supposed hydrophobia in India, (an account of which was published in the Edinburgh Medical and Surgical Journal for Jan. 1813,) by very copious bleeding, has induced many to adopt that practice.

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* In a case which was under Dr. Gower's care in the Middlesex Hospital, and which is noticed in this paper, the secretion of salivary mucus was so copious and so tough, that the patient drew it from his mouth in the form of ropes; and it covered several square yards of the floor of the apartment.—Editors.

But among the many instances of its inefficacy in this country, the case which occurred in the Middlesex Hospital last September, and which I saw, is a confirmation that depletion is as futile as any means of cure ever attempted. This hydrophobic was largely and repeatedly bled; at first by the suggestion of Mr. Clayton, the resident apothecary, and afterwards by order of Dr. Gower, who carried the plan of sanguineous depletion to a reasonable extent, besides employing the other means considered most suitable to such a view of the case*. I visited this patient (a man apparently about 50) between eleven and twelve at noon, in one of the wards of the hospital, in a state of complete hydrophobia, with convulsive action of the muscles about the throat, and abundant secretion of saliva, which he could not swallow from the constriction of the fauces; and was, therefore, scattering it on each side of the bed with convulsive efforts of the most distressing kind. He was perfectly free from delirium, and conscious of his situation at that time; and yet he died the same evening.—The symptoms of hydrophobia did not appear till fourteen weeks after he was bitten; and what may be noted as remarkable, a gentleman's dog at Edgeware, that was bitten by the same rabid animal, and on the same day, shewed symptoms of the disease at the identical time with this man.

Whether any medicines of the sedative class besides opium, as for example Cicuta, Hyosciamus, Aconitum, or Belladonna†, would be productive of advantage, is surely worthy of trial. I

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* We have heard of a recent case of Hydrophobia in a child at Bath, not more than five years of age, in which depletion was carried to its full extent and unsuccessfully; but we are unacquainted with the particulars of the case.—Editors.

† The root of *Atropa Belladonna* in powder, according to Munch, has long been a Specific for Hydrophobia in Germany. The celebrated Richter gave it a fair trial. It was exhibited at three several periods of the disease; the first dose was given as soon as possible after the person was bitten, and the second and third dose after distinct intervals of forty-eight hours, in the proportions to an adult of ten, twelve, and fourteen grains, in oatmeal gruel or milk. If after the third dose some swelling, tickling, or humidity of the wound was felt, another dose was given seventy-two hours after the last, and continued every forty-eight hours till the fifth dose was taken. If after taking the first dose the patient sweat much, or if the bitten part swell, it is a proof that the dose is sufficient; if the contrary happen, the dose is to be increased a little. The first should always be the smallest dose, as it generally operates more than the others. Looseness of the bowels, and an affection of the sight, are the only particularly striking effects ascribed to these large doses of the root of a plant, the extract of which is found so deleterious in comparatively small quantities in this country.—Editors.

have lately witnessed the powerful influence of the Belladonna in controuling morbid sensibility in *Tic doloureux;* after the complete division of the nerve above the orbit had been tried without success. It may not be uninteresting to state the particulars of that case.

One grain of the extract of Belladonna was given in a pill, which was found to occasion vertigo and great lassitude, with a peculiar and distressing dryness of the tongue and fauces; but the pain was removed. It returned the next day, and was again kept in check by smaller doses of the same medicine. A quarter of a grain of the extract was given three times a day, and increased to a third of a grain: then, a quarter of a grain morning and noon, and half a grain at night, sometimes omitting the medicines altogether for a day. The pain, whenever it returned, was as certainly removed by the medicine. In the course of three weeks, the disposition to the renewal of the *Tic* gradually subsided, and the remedy was consequently discontinued. No derangement of arterial action was perceived during this guarded use of the Belladonna, nor were the bowels constipated. An augmentation of the dose was now and then attempted; but confused perception in a slight degree, and dryness of the mouth, always succeeded, although these effects subsided spontaneously in a few hours. The individual, with a mind of the highest order, and long habit of appreciating the effects of various medicines, was convinced of the power of this remedy over his complaint. Large doses of tincture of opium, and opium in substance, had previously been tried, without any good being obtained from them, in this attack; and hemlock on a former occasion had also failed. The officinal solution of arsenic at that time, pushed to its full extent, had in some measure relieved, but not cured, the disease; but it had been discontinued from its deleterious influence on the general system.

The above case is alluded to merely to exemplify the effects of Belladonna as a sedative. Its local power over the iris has been long known. In Hydrophobia, or rather in the feverish excitement caused by the absorption of virus from the bite of a rabid animal, of which Hydropobia is only a symptom, the specific power of any medicine may be doubted; yet, on a future occasion, I shall be disposed to try the Belladonna, after having lowered the arterial action by the speedy abstraction of a very considerable quantity of blood, and clearing the bowels by some active cathartic.

No morbid examination of the body took place; the religious prejudices of the Jews, to which persuasion the parents of the patient belonged, opposing every wish expressed of opening the bodies of their dead.

New Burlington Street, July 20th, 1814.

IV.

A Case of Internal Inguinal Hernia. By JOHN RING, Member of the Royal College of Surgeons, London.

(With a Plate.)

THERE are few diseases which exist in such frequent varieties as Hernia; but as the following form of this complaint has never yet been described, and as it was accompanied by symptoms which did not lead to a true understanding of its nature until an examination post mortem developed its peculiarities, it may not be deemed unworthy of publication.

Mrs. H——, ætat. 23, on the day previous to my seeing her, was seized, after an hearty meal, with violent pain in the abdomen, which was relieved by loosening her cloaths. In the evening of that day, finding herself somewhat recovered, she walked for several hours, resting at intervals; the pain returning when she sat, and ceasing when she was in the erect position. But by this alternation of pain and exercise she was much exhausted. During the night the pain increased; and when I saw her she complained of great uneasiness in the region of the pubis, had a frequent desire to pass her urine, which was voided with pain; the countenance was flushed and anxious, the pulse 150, and the menstrual discharge had suddenly ceased. I directed a brisk saline cathartic, and enforced a general antiphlogistic plan.

On the following day I found the bowels had been opened, but vomiting had supervened; in other respects she was much the same. Saline medicines were given in a state of effervescence: and in the evening a fomentation was used to the abdomen, and a large blister applied.

On the third day the vomiting had ceased, the pulse was still 150, the bowels were open; and the pain continued, but not quite so violent. The salines were repeated, and the blister was ordered to be kept open.

On the fourth day she thought herself somewhat better, but her pulse was still 150. The same treatment was continued.

On the fifth day the abdomen had become tense, and was more painful; the face was flushed, the arms cold, and the pulse 160. Another practitioner now met me in consultation, who recommended a pill with five grains of calomel, and an enema, to be followed with saline medicines. By this plan copious watery evacuations were procured.

The vomiting returned on the sixth day, and the pain had become very severe in the left side. In the afternoon a violent diarrhœa came on; and cordials were had recourse to. In the evening she expired.

DISSECTION.

Permission being obtained to examine the body, this was performed in the presence of several practitioners.

INTERNAL INGUINAL HERNIA.

Kirkland del. *Bragg sc.*

On opening the abdomen, the omentum was found so much thickened as entirely to conceal the form of the viscera beneath. On cutting through the thickened omentum, a considerable quantity of purulent fluid issued from between it and the intestines; and layers of coagulable lymph, recently thrown out, connected its surface, almost uniformly, with the intestines. On the right side of the pelvis, where the omentum appeared to adhere more firmly, a considerable portion of it, about the size of a hen's egg, *was found to be entangled in an hernial sac, and completely mortified.*

Having examined the region of the pubis in the early stage of the complaint, and knowing there was no external tumour, this circumstance surprised me. A detailed examination, however, of the parts shewed the real state of this rare disease, which will be better understood by the annexed drawing, than by any description. The omentum varied in thickness from a quarter to three quarters of an inch, and the intestines were not inflamed.

OBSERVATIONS.

Some of the symptoms in this case resembled those of strangulated Hernia, but the peculiarities were, a constant desire to void the urine, the facility with which motions were procured, and the extreme quickness of pulse. The first of these symptoms probably arose from the irritation produced by the bottom of the hernial sac, the second from the disease being confined to the omentum, and the last I attributed, in a great measure, to domestic anxieties. By a particular inquiry made after the patient's decease, it was learned that she had occasionally complained of pains in the abdomen for some months past; and lately of a dragging sensation in the right side, which was relieved by leaning to that side. The pain was always more severe when sitting than when standing; and she had also become considerably emaciated.

Mr. Astley Cooper, who is in possession of the Preparation, has never, in the course of his extensive inquiries on the subject, met with a similar case.

DESCRIPTION OF THE PLATE.

THE dotted line represents the situation of Poupart's ligament.

A. the part attached to the Ilium.

B. that attached to the Symphysis Pubis.

C. the round ligament of the Uterus.

D. the hernial sac partly lying on the brim of the pelvis, extending under the symphysis pubis against the neck of the bladder.

As no other part of the omentum was mortified, than that which lay within the sac, the stricture must have been produced by the neck of the sac. The sac itself must have been formed by a preternatural enlargement of the duplication of the peritoneum, which exists at the brim of the pelvis.

Park Street, Grosvenor Square, April 10, 1814.

V.

On the Cause of an acute Eruptive Disease of the Integuments of the Penis. By WILLIAM ROYSTON, F.L.S. &c. &c. &c.

IN the month of June, 1810, I published in the Medical and Physical Journal (vol. xxiii. p. 441,) a history of an Eruptive Disease frequently occurring on the integuments of the penis, sometimes on the prepuce, at others on the body of the penis. Previous to my account of this disease, in the above work, it had never been noticed by any writer; its nature and progress were not known; and it was often mistaken for syphilitic chancre, with consequences most serious to the patient. Since that period (1810), this complaint has been noticed by other writers, particularly by Dr. Bateman in his Synopsis, who has not thought it necessary to acknowledge the source whence he had his knowledge of the disease he there denominates *Herpes præputialis.*

At the time my history of this disease was written, I was entirely ignorant of its cause; and other writers still remain in the same state. "I am not able," says Dr. Bateman, (Synopsis of Cutaneous Diseases, 8vo. 2nd edit. 1813,) "to ascertain the causes of this eruption on the prepuce" Frequent observation on the progress, termination, recurrence, and connections of this disease, since I first wrote upon it, have enabled me, however, to ascertain, I believe very satisfactorily, its cause. A great number of facts have come under my notice, which very distinctly and positively shew that this vesicular eruption on the integuments of the penis is *sympathetic of an irritable urethra, that it is frequently the precursor of stricture, always depends on an irritable condition of the urethral canal for its cause; and its recurrence is always prevented by the cure of the irritable state of the urethra.* I could relate a number of cases to substantiate this fact, both from my own practice, and from that of many respectable surgeons in London; but as I, at present, only mean to state the connection this eruption has with irritable urethra, in the train of cause and effect, I shall reserve the further detail to some other time.

Princes Street, Cavendish Square,
August 6th, 1814.

VI.

Case of Inverted Uterus, by R. H. Alexander, Surgeon, Corsham, Wilts.

Mrs. H. of W. Y., aged twenty-one, and in good health, was taken in labour with her first child on the 11th of February, 1808, and on the following day my attendance was requisite. On examination, I found the presentation natural. Every stage of the labour continued natural, although the progress of each was slow; and a living child was born, unattended by any unusual circumstances. As she appeared however afterwards much exhausted, a light cordial was given to support her. She had remained on the bed about half-an-hour, when her pains returned. At first they were feeble, but by degrees they became stronger; when presently, while I retained a slight hold of the funis, a violent pain occurred, and something was suddenly expelled, which, on the back of my hand, felt different from the placenta. Upon examination I discovered, that the uterus was completely inverted, and protruding, with the placenta firmly adhering to it. I instantly and easily separated the placenta from the uterus, and without the least hæmorrhage. As the patient was apparently almost expiring, I instantly, after the placenta was detached, attempted to return the uterus to its proper situation, by pressing with the back of my hand against its fundus. But the application of the whole of the muscular force of my arm whilst sitting was insufficient. Finding the resistance so strong, I placed my foot against the wall, which gave additional force to the manual pressure; this I continued for a short time and succeeded; for I found the fundus of the uterus gradually recede and double in, and the reduction was speedily effected. To prevent its return, I supported the uterus for some time with a gentle and even pressure.

As she was every now and then seized with a violent vomiting of dark viscid mucus, a little brandy was frequently put into her mouth with a teaspoon, and as often rejected.

For some days she appeared more dead than alive, yet always sensible. With the advice of Dr. Sainsbury, and good nursing, her health gradually amended, and at the end of six weeks, she was nearly restored to her strength.

Mrs. H. again became pregnant, and went through the period of gestation, with as much comfort as any other woman, and was on the 19th of August 1809, delivered of a healthy child after an easy natural labour of a few hours, and in August 1811, she was delivered of a third child, as naturally and easily as in the second labour.

Corsham, June 1814.

VII.

On Uterine Hæmorrhage during Parturition. By E. King, Surgeon-Apothecary, Brill, Bucks.

As a difference of opinion exists among obstetricians as to the propriety of giving stimuli, such as spirits, &c. in cases of uterine hæmorrhage during parturition—it is therefore desirable to obtain the opinions of the most experienced, in order, if possible, to decide so important a point in practice. It is confessedly with a view to provoke the discussion that I beg leave to submit a case which lately occurred to me. A woman at the full period of utero gestation was taken in labour. When the *os uteri* was dilated to the size of half-a-crown, hæmorrhage took place, and gushed from the uterus with every feeble pain. It appeared to me that the discharge took place from a point near the *os uteri*, when the *placenta* was partially detached.

In a similar case, a celebrated teacher directs to dilate the os uteri, and to deliver by art; and when once the *os uteri is sufficiently dilated*, to give brandy if it be deemed necessary, to cause the uterus to contract as it expels its contents; but not to use a stimulus while there is no reasonable hope that the contents will be quickly removed, or that the parts of the fœtus will press upon and close the bleeding vessels; because under such circumstances stimulants would increase the hæmorrhage. This I had been taught; and the doctrine influenced my conduct, and induced me in the above case to forbid the use of brandy, and to wish to deliver by art. However, the opinion of a neighbouring and older practitioner being taken, the contrary advice was adopted.

Perhaps the rules laid down by Dr. Stewart, and mentioned in the Medical Repository, (vol. ii. p. 39.), for the exhibition of opium in uterine hæmorrhage, is founded on the same principle as the giving of brandy and other stimuli in such cases; and the recent observations of Mr. Charles Bell on the muscular structure of the uterus (Ibid, vol. ii, p. 5.), may possibly tend to sanction the stimulant plan of treatment.

As such contrariety of opinions on this subject prevail; and as one of them must be wrong, dangerous consequences must ensue. It were promoting the public good, to establish, by the publication of the results of experience, the propriety or the error of this practice, to which, at present, I must withhold my assent.

Brill, Bucks. July 16th, 1814.

PART II.

ANALYTICAL REVIEW.

I.

Observations on those Diseases of Females which are attended with Discharges. Illustrated by Copper Plates of the Diseases, &c. By Charles Mansfield Clarke, Surgeon, and Lecturer on Midwifery, in London. Royal 8vo. pp. 304. Seven Plates. Longman and Co. London. 1814.

This is the first part of a work in which it is designed to class and arrange the diseases of the generative organs of the female; to mark their phenomena; to shew the impropriety of designating them by names which do not convey a true idea of their character; and to point out the dangerous consequences of prescribing only for symptoms. Mr. Clarke conceives, that by a due attention to the appearance and character of discharges *per vaginam*, much advantage may be obtained for the elucidation of the obscurity of the morbid conditions of the female sexual organs; and he explains the principle he has taken up in the following passage.

"The diseases of the sexual organs of the female are numerous and dissimilar; arise from various causes, and produce different effects. Some are attended by no discharge from the vagina; others, on the contrary, never occur without discharge, and the nature of this discharge varies.—Here appeared to be a path to follow. Here, at any rate, was presented a mode of making something like a division of these complaints, which might prove serviceable to the practitioner; for, supposing him not to be very conversant with these disorders, and to be at fault respecting the disease; supposing, for example, that he is not quite sure whether a tumour in the vagina is a soft polypus, or a cauliflower excrescence; if he knows that one of these diseases is attended by a mucous discharge, and the other by a discharge of water, he will have nothing to do but to inquire into this circumstance, and the question is immediately solved."

On the importance of attending to this class of diseases there can be no diversity of opinion. They are always distressing, often fatal; they are obscure in their origin, and concealed in their progress; and they are neglected by systematic writers. Under these circumstances the work of Mr. Clarke promises to be useful, by promoting inquiry and affording information;

and being practical, deserves the particular regard of those engaged in the actual exercise of the medical art.

The part now published contains a view of those diseases which are attended by *mucous discharges.* It consists of twenty-two chapters, which are occasionally illustrated by plates. An analysis of these will present our readers with an outline and abstract of Mr. Clarke's arrangement and observations.

The first chapter, "*respecting the sexual organs of the female, as far as their secretions are concerned,*" is preliminary, and contains facts on the structure and functions of those organs. The secretions treated of are the menstruous—those from the mucous membrane of the uterus and fallopian tubes—from the glands in the cervix of the uterus—from the inner membrane of the vagina—from the lacunæ of the vestibulum—and from the mucous membrane of the urethra. As the catamenial discharge has been generally considered as nothing more than a periodical hæmorrhage from the uterus; the opinion of our author on the subject, though neither peculiar nor absolutely new, deserves notice.

"The menstruous secretion is a fluid of a red colour, possessing very little tenacity, which does not coagulate, poured out by the arteries of the uterus, once every lunar month in healthy women, if they are neither pregnant nor suckling; it begins at puberty, and generally continues till between the age of forty and fifty in this country; so that calculating the age of puberty to be the fifteenth year, and the duration of life to be seventy years, it may be said that the menstruous secretion is performed during three-sevenths of it.

"It is of consequence for practical purposes to observe, that menstruation is a secretion, and not an effusion of pure blood either from arteries or veins. All blood from the sanguiferous vessels (with very few morbid exceptions) coagulates; whilst the fluid of the catamenia does not, whether it comes away in a stillatitious manner, or is retained in large quantity as in the case of imperforate vagina.

"Whatever is capable of increasing the determination of blood to the vessels of the uterus, may increase the quantity of this secretion; and if this determination of blood is increased above a certain point, the orifices of the vessels give way, and blood is mixed with the secreted fluid; but if, in consequence of this determination of blood to the uterus, inflammation takes place, then coagulating lymph is thrown out, as from other inflamed mucous membranes, and the secretion is diminished till the lamina of coagulating lymph is separated.

"From the definition above given of the menstruous fluid, it will be seen that it does not possess the coagulating part of the blood, and instances have occurred where the red colour has been wanting; but from the quantity of which, a woman has been obliged once in a month to take the ordinary precautions of a menstruating woman."

The second chapter treats of "*Profluvium vaginale,*" and

under this term comprehends, 1. transparent mucous discharge—2. white mucous discharge—3. watery discharge—4. purulent discharge—5. sanguineous discharge. Although the author gives to this chapter the title of vaginal discharge, he considers that discharge to be only symptomatic, and not to be treated as an original disease. He defines it to be a fluid flowing from the vagina, varying in consistence, quantity, and colour; either produced by general debility, or by change in the structure, position, or actions of the neighbouring parts. The distinction made between the symptom and its cause, is considered to be, and really is, an important circumstance in the treatment of this class of disease.

"If the discharge is the effect of weakness, and if by its continuance the original weakness is increased, tonics will be required. If it depends upon some tumour in the vagina, the removal or support of this will also remove the discharge. If it arises from inflammatory action, this must be removed before any endeavour to restrain it is employed; for as the discharge during its continuance lessens the violence of the disease which produced it, it should not be checked till such inflammatory action is diminished. Nothing can be more injurious under such circumstances, than the exhibition of tonics and stimulants, as cantharides, turpentine, and steel.

"In many cases it is as injurious to restrain the discharge from the parts, as it would be to put an end to the natural salivation of a teething child whilst the determination of blood to the head continues, or to heal an ulcerating surface in a constitution which has been long accustomed to it, without substituting some other secretion for it."

By the transparent mucous discharge of the first section, is meant a nearly transparent, gelatinous fluid, susceptible of coagulation. The second section treats of a discharge, under the term white mucus, resembling thin cream, or, both in colour and consistence, like a mixture of starch and water, made without heat: this discharge is referred to a morbid state of the glands of the *cervix uteri*. The watery discharge of section three, resembles limpid water, has no colour, and contains little or no glutinous matter; is very large in quantity, and is symptomatic of the cauliflower excrescence of the *os uteri*. Sections 3, 4, and 5, seem very loosely connected with the author's declaration, that this first part of the work was to contain only those diseases accompanied with mucous discharge. In the fifth section, *Sanguineous Discharge*, a practical fact of some importance, especially in its relation to medical jurisprudence, is explained. The coagulable lymph of the blood sometimes comes away in this discharge, unmixed with colouring matter, in inflammatory affections of the mucous membrane of the uterus and vagina, and is mistaken for an embryon. The

presence of the transparent membrane of the ovum, is the only positive proof of abortion. The sanguineous discharge from the uterus is not pathognomonic of any disease exclusively; but occurs in the aggravated state of many uterine affections. Chapter third contains general observations on sexual diseases; and the necessity and method of making examinations *per vaginam*, is explained and enforced.

The fourth chapter is on a subject of great interest in the animal œconomy, and of vital importance in the practice of medicine. The SYMPATHIES *that exist between different parts of the body, as indicative of healthy actions, or of morbid changes, are treated of in this chapter.* The healthy sympathies here noticed, are those between the testicle and organ of voice in the male, and between the uterus and breasts in the female. We confess that we do not fully understand the sympathies between the stomach and uterus in the female, and the more general consent between the skin and the internal cavities in both sexes, given as specimens of healthy sympathies by Mr. Clarke; as instances of morbid sympathies we have no hesitation to admit them. The morbid sympathies exhibit a much more numerous train than the healthy; they are simple, reciprocal, and compound. The sympathies of many parts of the female frame, and even of the female mind, with the uterus, are very numerous.

The influence of the uterus upon the stomach is manifested in the subsequent instances. In cancer uteri vomiting always happens: when the uterus is ruptured, a dark coloured matter resembling coffee grounds, is ejected from the stomach; and in puerperal convulsions we have seen the same effect. In amenorrhœa various affections of the stomach arise: in the acute stage of dysmenorrhœa, sickness and vomiting occur. The bladder and rectum sympathise with the uterus; hence strangury and tenesmus. Pain in the lower extremities arises in some uterine affections. The abdominal muscles sympathize with the uterus, and have a consentaneous action with that organ when its muscular fibres are in a state of expulsile contraction. The diaphragm sympathizes with the uterus, and of this singultus is the evidence. The sympathy between the brain and the uterus is often direct; furor uterinus, puerperal convulsions, the proteous forms of hysteria, and mania, are instances. The greater frequency of maniacal disorders in the female than in the male, in the proportion of five to four (*vide Haslam on Madness and Melancholy,*) is thus accounted for.

The doctrine of Sympathy is a branch of medical study which seems to demand a more serious attention than has yet been given to it. The observations of Mr. Clarke touch upon it too slightly to satisfy the philosophical inquirer, who may

look to the consent between distant parts of the frame, not merely as explanatory of certain morbid states, but as a branch of physiology of the greatest importance. To the practitioner a knowledge of sympathies is, however, essential. Without this knowledge symptoms are often unintelligible, and the treatment of cases precarious, uncertain, and hazardous.

The fifth chapter treats "*On certain Diseases attended by a mucous Discharge from the Vagina.*" These, as depending on displacement of parts, are Procidentia Uteri — Procidentia Vesicæ—Procidentia Vaginæ—and Inversio Uteri.

The first of these, Procidentia Uteri, is a malady of the most distressing kind; but it is unfortunately so common and strongly marked, as not to require an analysis of Mr. Clarke's description of its appearances. The causes of procidentia uteri, are of a nature, particularly the occasional ones, to demand peculiar attention. The immediate causes are a relaxation of the broad and round ligaments, and a want of due tone in the vagina. The most frequent occasional cause is the long continued erect posture of the body at an early period after delivery, and in some cases after abortion.

"To this cause the majority of the cases is to be attributed; for at this time not only the immediate causes of the disease are present, but the uterus weighs eight or ten times more than an unimpregnated uterus, and it is carried down by its own weight. The long confinement of a patient to a warm bed after delivery may be productive of considerable debility; but setting up in the erect posture is more injurious. The use of the chair is now very much laid aside, and the best practitioners direct their patients to remain in the recumbent posture upon a sofa, or on the outside of the bed; the advantages of a horizontal posture and coolness are thus combined. This posture should be observed until the uterus has nearly regained its unimpregnated size, which will be between the third and fourth week after delivery, at which time it may be presumed that the ligaments and the vagina have acquired their former strength. In this place a question may arise; What becomes of women in the lower ranks of life, who have not the means of giving up this time to the recovery of their local strength? These women are liable to this complaint, and suffer from its effects very frequently. Women liable to violent coughs during the time of their confinement after childbirth are especially the subjects of procidentia, from the pressure made by the abdominal viscera upon the uterus in the occasional strong action of the diaphragm and the abdominal muscles, when the vagina can afford no resistance."

The symptoms of this complaint are pain in the back and inguina, considerable vaginal discharge at early periods, ulceration of the vagina, strangury, irregular, or total loss of appetite; the stomach and bowels also lose their tone. The existence of the os uteri at the lower part of the tumour is the

characteristic mark of procidentia of the uterus. The treatment of procidentia uteri, is given in chapters six and seven; the sixth examines the methods to be employed for relieving the symptoms, and for restoring the tone of the parts; the seventh is entirely occupied by describing the modes of supporting the uterus.

The tone of the weakened parts is to be restored, 1st. by the application of cold; 2ndly, by astringent injections.

"In procidentia uteri, cold water ought to be applied to the female parts, to the belly, and to the back, by means of a sponge, three or four times a day; and the water for this purpose should be used as soon as it has been drawn from the spring. The water may be rendered still colder by the addition of some matter which is passing from a solid to a fluid state, as ice or salt. Cold water may also be thrown into the vagina by means of a syringe, or a piece of ice may be introduced into the vagina, and suffered to dissolve there. In very slight cases of the disease, when the symptoms are just beginning, and when they are known to proceed from the causes which have been mentioned, they will be removed by attention to these rules, assisted by the horizontal posture. Whenever it is found necessary to inject fluids into the vagina, and important that they should remain there for any time, the operation should be performed when the woman is in a recumbent position; and if a pillow is previously placed under the hips, in order to raise them a little, the fluid will be less likely to escape."

In by far the greater number of cases the vagina will be found too much relaxed to have its tone restored by cold alone; and then the additional aid of astringents will be required. These are taken from the vegetable and mineral kingdom, and the author gives the following directions for their use.

"Sulphate of zinc.—This substance is more useful in cases of relaxation of the orifices of mucous glands, than where tone is required to be given to muscular fibres, as in the case of procidentia; for in order to this latter effect a very strong solution of it must be employed, and this will be apt to irritate the membrane of the vagina:—few persons can continue to apply it long on this account.

"The same observations apply to the compound of silver and nitric acid, and of copper and sulphuric acid.

"The superacetate of lead does not possess much power in contracting the vagina; and few cases of this disease will be benefited by its use, unless where inflammation has attacked the vagina.

"Solutions of alum will be found to be a much more powerful remedy; and even when very strong, they are little apt to irritate the mucous membrane. It has been the custom, from the earliest ages of medicine, to make a combination of those medicines, which fulfil the same intentions; and experience confirms the propriety of the practice. It may reasonably be supposed, that a part not liable to be acted upon by one substance may be acted upon by another of the same class; thus one patient will be purged by senna, another

by jalap, and another by salts, and either of them may be more active with one patient than the other two; but a more certain effect will be produced by a combination of the three medicines than by any of them singly, or even by two of them.

"This fact is not confined to medicines for internal use, since we find that an indolent ulcer will sometimes be more benefited by one stimulating application than by another, and that a combination of stimulating substances will sometimes agree better than any one applied singly.

"A mixture of alum and sulphate of zinc in such proportions as the nature of the case may seem to require, will sometimes fulfil the intentions of the practitioner better than either employed alone; and so of all the other mineral astringents which have been in use. The varieties in the shades of disease require a variety in the remedies employed; and this must be left to the skill and the judgment of the practitioner, who must accommodate his measures to the peculiarities of each case; and who, if he expects to find all cases alike, will be much disappointed when he is called upon to treat them. In the last Pharmacopœia published by the London College of Physicians, there is a formula for a solution of sulphate of zinc and alum, under the title of Liquor Aluminis Compositus, which however will require to be diluted with different proportions of water, so as to adapt it to different cases; for the irritability of the mucous membrane of the vagina varies in different women, as well as in the same woman at different periods of time. This may make it necessary to begin with the application of weak astringents, and to increase their strength gradually.

"Amongst the vegetable astringents applicable to the case under consideration, may be reckoned Thea viridis, Petala Rosæ rubræ, Cortex Quercus, Cortex Granati, Gallæ.

"The two former do not possess the same degree of astringency with the last-mentioned substances. The three last possess a great degree of astringency. They give out their astringent properties to water more readily by boiling than by infusion, and therefore the decoctions of them are to be preferred: they may be used alone, or some of the mineral astringents may be dissolved in them. By these means are procured astringent fluids of such strength that the vagina may be so much contracted as even to render the introduction of the pipe of the female syringe difficult.

"Astringent injections should be thrown into the parts twice or three times a-day, or oftener; and they should be used cold."

Beside these local remedies, the employment of tonics generally is advised, with the cold bath, especially of sea water, an attention to the state of the stomach and bowels, and to position of the body. A confinement to the horizontal posture, as far as is compatible with the security of the general health, is an essential part of the curative process.

The seventh chapter, "*On the Mode of supporting the Uterus,*" goes into an elaborate history of the various forms of

Pessaries, and the mode of employing them. As this chapter does not very well admit of abridgment or analysis, we shall be content with recommending the perusal of it, and with quoting the mode our author recommends of introducing the circular and oval pessary.

"The woman should be placed upon her left side, close to the edge of a bed, and her knees should be drawn up towards the abdomen; the practitioner is then (having previously examined the size of the vagina) to select a pessary, according to his judgment, of a proper size. This instrument is then to be covered with some simple unctuous matter; and if its form is circular, it is to be placed between the labia, so that one edge will be turned towards the os pubis, and the other to the rectum; it is then to be moved in a circular direction on its own axis, pressing it at the same time towards the perinæum, till it has fairly entered the vagina. As the instrument passes the edge of the external parts, some little uneasiness is felt by the woman; but this ceases as soon as it has reached the vagina, to the upper part of which it is to be carried; and it is to be so placed that the uterus may rest upon one of the broad surfaces of it. The instrument is now to be left in the vagina, and a syringe full of some cold astringent injection should be thrown into the parts, to give tone and contraction to the dilated os externum; as in cases where the vagina is very much relaxed, it may make a smaller pessary answer the purpose of support than would be required if no such means were resorted to. Whatever may be the shape of the pessary introduced, the woman should continue for some minutes in the recumbent posture.

"An oval pessary requires great care in the mode of introduction; and is either a very good or a very bad instrument, according as it is well or ill applied. In the choice of it, the present size of the vagina is to be first considered, with the diameter of which the long diameter of the instrument should correspond. The extremities of the instrument should not be too acutely pointed, lest they should injure the parts.

"The instrument being covered with some unctuous substance, one end of it is to be placed between the labia, with the short diameter running from before to behind; and in this direction it is to be carried up into the vagina. The practitioner is then to insert the point of his forefinger into the opening in the centre of the instrument, and to place it across the vagina, so that the extremities may be turned towards the spinous processes of the os ischium. If the direction of the opening in the pessary is made to correspond with that of the long diameter of the instrument itself, this will be easily accomplished. The pessary is now to be passed as high into the vagina as it can be without giving pain, and to be left there."

The eighth chapter is on Procidentia Vesicæ. The symptoms of this prolapsus very much resemble those occurring in Procidentia Uteri: there are, however, some peculiar to the prolapsus of the bladder. They are a reference of the pain to

the navel, with a sense of tightness there, which is greatest when the bladder is distended; and an absence of that derangement in the stomach which accompanies Procidentia Uteri. The opening in the lower part of the tumour characterising Procidentia Uteri, is also wanting. The general tonic plan, the application of astringents to the part, and the employment of pessaries, are recommended.

Procidentia Vaginæ is the subject of the ninth chapter. For this disease practitioners are not frequently consulted. As it arises often from distention of the rectum, the keeping that intestine properly emptied, or removing the accumulated fœcal matter, is an essential part of the prevention and cure. The restoration of the distended rectum by astringent injections, and the application of cold, is recommended.

Inversio Uteri, the subject of the tenth chapter, as being generally occasioned by mismanagement of the placenta, is now seldom met with. But as it is sometimes seen in a chronic form, it is admitted into this work. The symptoms of the chronic state resemble those of Procidentia Uteri, and the inverted uterus has been removed by an operation, of which a successful instance, under the author's direction, is given.

The next part of the volume treats on vaginal mucous discharges, produced by an increased determination of blood to the sexual organs. In the preceding part the discharge was considered as symptomatic of displacement of parts. The author now considers those which have a different, and often very formidable, origin. Among the slighter are hemorrhoids and ascarides in the rectum, noticed in chapters eleven and twelve. In the chapter on hemorrhoids, the precautions respecting the mistaking the ulceration about the anus and labia, accompanying this complaint, for syphilitic sores, are very properly enforced. Both hemorrhoids and ascarides, by their stimulus, occasion a mucous discharge from the vagina, and which is only to be removed by attending to the cause. A strong decoction of the *semen santonici* injected into the rectum, and retained there as long as possible, Mr. Clarke considers to be the most effectual remedy for ascarides.

Carcinoma Recti, resembling in its symptoms Carcinoma Uteri, and being attended with a mucous discharge from the vagina, has a place given to it in his work; it makes the subject of the thirteenth chapter.

Carcinoma Recti, when in an open state of ulceration, admits but of palliative treatment; but in its earlier stages a careful attention to it, in one point especially, is of much importance. When it has been mistaken for stricture of the rectum, mischief has suddenly been produced by the employment of the bougie. In the carcinomatous state of the rectum pain will be

greatly increased by the passage of fœces, and will be such as the patient would feel upon the rough handling of any external tumour of a similar character; but in the common stricture of the rectum, although there may be pain, it will not be acute, being occasioned merely by the resistance offered to the passage of the contents of the gut. In carcinoma of the rectum, acute pain is occasionally felt when no expulsory endeavour is made. In stricture of the rectum, the pain is felt only at that time, or for a short time afterwards. These symptoms, with a less effect on the constitution in stricture than in carcinoma, and a slighter excitement of sympathetic feelings, are the principal distinguishing marks. Though the palliative treatment of Carcinoma Recti affords nothing that induces us to extract it, a digression inserted in this section on the treatment of *carcinoma* generally, we consider too valuable to be passed over.

"To look on and to watch a disease, to know when to assist nature in her operations and when to do nothing, are among the greatest qualifications of practical men, and the lot of but few; and it should never be forgotten, that the natural resources of the constitution are equal to a great deal, if they are not interrupted by the interference of art.

"Perhaps in other parts of the body, when tumours of this description arise, and when it is not thought right to remove them by operation, on account of the age of the patient, of the state of the constitution being unfavourable to the healing of the wound, or because glands in the neighbourhood are diseased, the most simple applications are the best.

"Stimulating applications, to promote absorption of such tumours, should never be employed; as they produce no good effect, and may do irreparable mischief.

"All plaisters which adhere strongly to the surface of the skin, notwithstanding that the ingredients of which they may be composed are of a sedative nature, should be avoided; for by the warmth which they produce they may be injurious, and in the removal of them the skin may be injured and a breach of surface produced. Thus any good effect which might have been expected from their sedative quality will be defeated. As a defence against external injuries, when the skin is very tender, the common soap plaister, spread upon thin linen, may be applied; and whilst care is taken to prevent the part from suffering by any improper exposure to cold, it should also be a particular object of regard, that it should not be kept too warm.

"Most patients who consult medical men on account of diseased tumours have applied flannel to the part, 'in order to keep the cold from them.' The practitioner should endeavour to explain to the patient the erroneous principle of her conduct, and advise her equally to avoid the extremes of heat and cold.

"Another object of importance is to prevent the unnecessary action of those parts near which the disease is situated. Thus, if a

tumour should form in the breast, the arm of that side should be kept as quiet as possible, lest the exercise of it should produce a larger determination of blood to the disease, as well as render it more liable to be injured.

" It is well deserving of inquiry, how far pressure made upon vessels carrying lymph or blood has a tendency to produce and increase the size of carcinomatous tumours. It cannot be unsafe to caution a woman labouring under carcinoma of the breast, to let her dress make no pressure on the shoulder, but particularly on the axilla of the side diseased. It is found to be advantageous in retarding the growth of carcinomatous tumours, to apply leeches often to the surface of them, if the tumour is not very near to the surface of the body. Such a mode of treatment is very serviceable, by emptying the blood-vessels, and diminishing any increased action in the vessels of the part. But when the tumour lies very near to the surface, more harm than good has been done by the application of leeches; for the coagulum of blood which is always left in the opening formed by the mouth of the leech, sometimes irritates the parts and produces itching, which the patient endeavours to appease by rubbing; this excites great superficial inflammation, which cannot but be hurtful.

" Whenever a carcinomatous tumour becomes so large as to stretch the skin covering it so as to make it appear glossy, the application of leeches will always be improper; because a breach of surface once made, may not heal again. If in such a case the application of leeches should be thought adviseable, they should be placed on the outside of the circumference of the tumour, where no such effect will be produced upon the skin; and when this is attended to, they will be nearly as efficacious in diminishing the fulness of the tumour, by emptying the supplying vessels, as if applied upon the tumour.

" In some carcinomatous tumours of the breast, there are point elevated above the plane of the tumour, which put the skin covering them much upon the stretch, and which projecting points at length occasion absorption of the skin lying over them. Every remedy therefore which tends to relax the neighbouring skin may be usefully employed. To prevent the conversion of carcinoma into the ulcerated state ought to be the especial care of a practitioner.

" In those cases where the tumour lies near the surface of the body, there is a state intermediate between these two stages,—the scabbing stage; and during the continuance of this stage the patient may live for a number of years, perhaps with less inconvenience and pain than that which was suffered during the latter part of the carcinomatous stage.

" After the skin has been very much stretched it often gives way, and a portion of the tumour is exposed; from this portion a small oozing of serous matter escapes, and forms a film upon the surface; the aqueous part evaporating, this becomes a scale. This small oozing, if the patient attends to proper rules of diet, will so far relieve the vessels below it, that the sense of pain and of tight-

ness will be greatly mitigated. By degrees, however, the oozing goes on, till that which was a thin scale becomes a scab, the extent of which increases, till at length it covers a great part of the neighbouring sound surface, and even projects very much above the skin. As long as the scab remains attached, the patient's situation is far less dangerous than when a separation of it has taken place.

"During the time of the formation of this scab, any fluid which may be effused should be absorbed, by sprinkling the surface with some light dry powder, such as oatmeal, or a mixture of starch and oxide of zinc. The part should also be left exposed to the air, in order that evaporation may go on more quickly, and the film harden.

"If the fluid poured out can be dried in this way, so as to prevent the escape of it over the neighbouring sound parts, it is preferable to the application of any powder; which, by adding to the weight and thickness of the scab, will render it more liable to be displaced. To prevent the occurrence of this accident, all possible care should be taken. For this purpose, a thin metallic case may be worn over the breast affected, in order to secure it from any injury during the day, and from accidental pressure during the night. Such metallic case should be very thin; and it should be pierced with holes throughout, in order to diminish its weight, and to prevent the retention of the heated air between the breast and itself. It should of course make no pressure upon the scab.

"If the height of the scab should render it very liable to be detached, small portions of it may be carefully removed from its upper surface by very gentle means; care being taken not to carry the removal of the dried matter too far."

The disease which has been last described as attacking the rectum, exists much more frequently in the uterus, and is treated of in chapter fourteen.

The appellation *Carcinoma Uteri*, Mr. Clarke confines to a tumour near to, or a thickening of the *Cervix Uteri*, having a disposition to ulcerate. This disease attacks only in the first instance the cervix of the uterus, on account probably of that part being very glandulous. In its early stage, two varieties of it are distinguishable.

The first variety is a firm tumour of a rounded form, springing from the surface of the Cervix Uteri, or imbedded in it, whilst the other parts of the uterus are perfectly healthy, except that its parieties are thickened as the disease advances, and that its cavity becomes larger than that of an healthy unimpregnated uterus.

In the second variety, instead of any distinct tumour, the whole cervix of the uterus becomes larger and harder; and if the thickened part is examined by cutting into it, it puts on the same appearance which a regular carcinomatous tumour presents.

The symptoms of these differ. In addition to the usual symptoms of carcinoma, there will sometimes be found in the

first variety, some mechanical effects, depending on the pressure made by the tumour on neighbouring parts, which pressure will be more or less severe according to the size and situation of the tumour. In the second variety these do not exist, because the carcinomatous thickening of the Cervix Uteri rarely acquires a sufficient size to produce them.

The symptoms common to both those varieties, are a very constant mucous discharge from the vagina, which, as a local evacuation, sometimes checks the progress of the disease; this mucous discharge is occasionally tinged with blood. There are sometimes discharges of pure blood, in such large quantities as to produce syncope, strangury, arising from consent between the uterus and bladder; also urticaria, and dyspepsia. Upon examination per vaginam, the disease will be discovered by the following marks:

"The cervix of the uterus will either be found thickened, and with a resisting feel resembling that of gristle, or a distinct tumour will be perceived arising from some part of the Cervix Uteri, the other parts remaining healthy. In either case, pressure upon the diseased parts produces pain of a lancinating kind. The os uteri will be found also to have undergone a change. It becomes larger than natural, still however retaining its original shape. This open or gaping state of the os uteri sometimes is sufficient to admit the extremity of a finger, which, when introduced into it, feels as if surrounded by a firm ring. The parts will sometimes have undergone all the changes of structure above related when no local symptoms have been apparent, and when the disease has only been ascertained by an examination."

The treatment of an incurable disease can only be palliative; and with this view, Mr. Clarke's directions are very judicious. Topical blood-letting, especially from the loins, purging commonly with saline cathartics, abstemious diet, (no animal food, and no fermented liquors), warm clothing, an avoidance of all local stimuli, seem the principal means of checking the progress of this disease toward ulceration.

"No attempt should be made to stop the mucous discharge; but if it should be secreted in large quantity, it should be frequently washed away, by injecting tepid water into the vagina. The heat of the water should be accurately regulated: if it is employed too cold, the secretion from the parts will be greatly checked by it; and if too hot, increased action of the local vessels will be excited. The temperature may vary from eighty-six to ninety-four degrees of Fahrenheit, according to the sensations of the patient. The frequent ablution of the parts renders it less necessary for the woman to take any precautions for absorbing the discharge, which generally tend to heat the parts, and must be hurtful. The water should be injected by a female syringe several times in a day. If the woman continues to

menstruate, the temperature of the water should be nearly that of the body at the periods of the discharge, lest it should be checked."

Iron has been recommended as a remedy for this disease, but under Mr. Clarke's observation it has always been injurious. A restoration of the vigour of the system always aggravates the disease.

As it is not perhaps generally known that urticaria is a concomitant of Carcinoma Uteri, we extract the following case as an example both of the symptoms and treatment:

"An unmarried lady, about thirty years of age, had an enlarged uterus, in which, at different times, inflammation had taken place, which was subdued by local bleeding, purging, abstemiousness, and quiet. Some time after she had pursued this plan in the country, she came to the house of her father in London, and was attacked with cardialgia and urticaria to a very great degree. The skin in many parts of the body was attacked by the latter disease, but especially the face and the lower part of the abdomen. Considerable itching was present, accompanied by irritability of the whole system. The disease of the uterus also, which had been in a quiet state during several months, returned with great violence. Local bleedings in some degree lessened the pain; purging with neutral salts increased the urticaria. Nearly all vegetable food was abstained from; she took nothing but soda water and mint tea for beverage, with a little thin dry toast for food. Once in four hours a draught was exhibited, consisting of carbonate of magnesia, compound spirit of ammonia, and an infusion of dill seed. Under this plan all the symptoms subsided, and the uterine disease at that time gave no further alarm.

"For some months this lady continued well; but having at supper eaten freely of fruit pye, and drunk at the same time some sweet wine, the urticaria returned in the night, and with it the pain in the region of the uterus. Some bitter infusion, with rhubarb and volatile alkali, was now given, and soda water for common drink; and again all was put to rights. She now carefully avoids such food as is likely readily to ferment; and, watching the first attack of heartburn, has not for some time been visited by her troublesome complaint."

Chapter sixteen treats of *Polypus of the Uterus.*

The Polypus of the Uterus is an insensible tumour attached to the internal part of this viscus by a small neck, and has various appearances, sometimes nearly white, at others of a brown colour; sometimes hard and resisting; at others, soft and yielding. The soft polypus is not so frequent as the hard.

"The symptoms of this disease are, first, a mucous discharge in considerable quantity, mixed at different times with blood; and in some instances the constitution becomes debilitated to an extreme degree by this symptom, before there is the

least suspicion respecting the cause of it. Sometimes, instead of the mucous discharge being mixed with blood, large coagula of blood will be voided; and sometimes pieces of a ring-like form come away, produced by a small quantity of blood attaching itself to the surface of the tumour, and there coagulating; it at length slides off, and comes away. In other instances, the blood poured out becomes putrid in the vagina, and tinges the discharges of a brown colour, rendering them at the same time very offensive. This fœtor of the discharges induces in the mind of the patient, and sometimes of the practitioner, a belief that the disease is cancer; and this opinion is confirmed by the sickness which generally attends the disease.

"The discharges from cancerous sores are fœtid, if great attention is not paid to cleanliness: but fœtor of the discharge is by no means peculiar to cancer; for whenever blood is retained and becomes putrid, this circumstance must attend: and if such rings of blood form upon the surface of polypous tumours, as have been alluded to above, there will be a difficulty in their sliding over the lower part of the tumour, because it is generally larger than the upper part, or that nearest to its neck. In this manner may be explained probably the reason why the discharges are so generally and necessarily offensive in this disease*.

"A sense of pressure and of bearing down are also found in this complaint; and these symptoms are proportioned in degree to size and weight of the tumour. Pain is likewise referred to the back and groins.

"If the tumour should be large enough to fill the cavity of the pelvis, it may, by pressing upon the rectum and upon the meatus urinarius, prevent both the free evacuation of fæces and of urine. Such cases are, however, uncommon. It more frequently happens that strangury attends the complaint, from the sympathy between the os uteri and the bladder.

"The sympathy between the stomach and uterus is sometimes excited, and frequent vomitings distress the patient exceedingly.

"Here then, from one cause, are three symptoms producing great weakness; an increased secretion of mucus, hemorrhage, and vomiting, with derangement of the digestive powers, by which alone the strength can be recruited.

"But the true character of the disease can only be ascertained by an examination. This will discover an insensible tumour projecting through the os uteri, by which its neck is entirely encircled, so that the finger can be completely passed round it."

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* "Quid tibi vis, mulier nigris dignissima barris?
Munera cur mihi, quidve tabellas
Mittis, nec firmo juveni, neque naris obesæ?
Namque sagacius unus odoror,
Polypus, an gravis hirsutis cubet hircus in alis,
Quam canis acer, ubi lateat sus."

Hor. lib. v. Carm. 12

This disease is not very liable to be mistaken for others. There is, however, a tumour of the uterus which has been looked upon and treated as polypus.

"This tumour, which is insensible, has an unequal ragged surface, comes down from the cavity of the uterus into the vagina, is surrounded by the os uteri, and is without a narrow neck.

"Upon an accurate examination, this tumour is found to be made up of a number of irregular portions, which lie parallel with each other.

"All the symptoms of polypus uteri attend this complaint, and at length will end in the destruction of the patient. In this disease the uterus undergoes a great degree of enlargement, and its muscular sides become greatly thickened; a change not usual in polypus, even when it is of a very large size."

It is requisite to distinguish this disease from polypus, because it does not admit of the same successful treatment, and it always ends in the destruction of the patient.

Polypus Uteri admits but of one mode of cure, by means of an operation. The method and steps of this are elaborately described by Mr. Clarke, and to his chapter on the subject we refer our readers.

A disease first described by Dr. William Hunter, under the denomination of *Fleshy Tubercle of the Uterus*, occupies the seventeenth chapter. This tubercle is a hard, whitish tumour, nearly as firm as cartilage, situated sometimes upon the surface of the uterus, between the muscular and peritonæal coat, sometimes projecting into the cavity of the uterus, and occasionally imbedded in its substance. Nothing is known respecting its cause. The early symptoms are a frequent desire to make water and to empty the rectum: an increased discharge of transparent mucus from the vagina attends many cases. Many other symptoms are only mechanical, arising from pressure. Retroverted uterus with its consequences occurs in this disease; and the discharges of urine and fæces then become the principal objects of attention.

The eighteenth chapter is on verrucæ, arising from the vestibulum. The discharge accompanying those tumours usually subside with their removal; and as the methods employed for this purpose are known to every practitioner, it is not necessary to enumerate them. *The vascular tumour of the orifice of the meatus urinerius* treated of in the nineteenth chapter, inasmuch as it is not so common an occurrence, and when it does arise, occasions so much distress, may demand more attention.

The texture of this tumour arising from the projection

which in most women surrounds the orifice of the urethra, is seldom firm, it is of a florid scarlet, resembling arterial blood; and if violence be offered to it, blood of the same colour is effused. Its surface is somewhat granulated. It is exquisitely tender to the touch; and if an accurate examination be made, it seems to shoot from the inside of the urethra. Its attachment is slight, and it is so moveable, that it appears almost like a detached body, lying upon the parts. It may be removed by ligature, scissars, and caustic: but the ligature is to be preferred, because, when so removed, the tumour is less likely to return. It is in these minor diseases, upon the removal of which much of the comfort of life depends, that great delicacy of treatment, accuracy of observation, and dexterity of hand are required.

Very analogous to the disease treated of in the preceding chapter, is "*the thickening of the cellular membrane surrounding the urethra throughout its whole extent, accompanied by a varicose state of the vessels of the part,*" which is the subject of the twentieth chapter. The existence of this disease is ascertained sometimes by pain and difficulty in the sexual intercourse; and in many instances by the constant uneasiness it occasions. A mucous discharge always attends it. The most speedy and effectual mode of relieving the patient, is by emptying the vessels, either by puncturing them with a lancet, or by the application of leeches.

The twenty-first and twenty-second chapters, which conclude this part of the work, the only one yet published, treat of the transparent mucous discharge from the vagina, unaccompanied with any alteration of structure. It is of two kinds, or arises from two causes; an increased action of the vessels of the part, and from debility.

These too forms of the disease arise in women of different temperaments, and require opposite modes of treatment. The suggestions of the author are judicious, and his observations will reward the trouble of the perusal.

We have followed Mr. Clarke through his work with considerable satisfaction: it is the production of a practical man, and will be useful to those who are themselves practitioners. The plates, in number ten, are sufficiently well executed, are auxiliary to particular cases, and illustrative of practice.

It is well known that every discharge from the vagina, not being coloured, was classed under the sweeping term *Fluor Albus*, which was considered to be an idiopathic complaint; and efforts were always made to suppress the discharge both by local and general tonics; or, if the discharge was fœtid and was accompanied with pain, it had given to it the formidable name of *Cancer*. Mr. Clarke has endeavoured to

discriminate the discharges from this part of the female frame, to shew that they depend on various circumstances of alteration of structure or position of parts; that they are generally symptomatic and not idiopathic; that it is often injurious to suppress them; and that they cannot, either consonant with precision of language, or practical usefulness, be all classed under the terms *Fluor Albus* and *Cancer*.

II.

An Enquiry into the Probability and Rationality of Mr. Hunter's Theory of Life; being the Subject of the first two Anatomical Lectures delivered before the Royal College of Surgeons of London. By JOHN ABERNETHY, F.R.S. &c. Professor of Anatomy and Surgery to the College. 8vo. pp. 95. Longman and Co. London.

AMONG the first fruits of the lectureships, established at the Royal College of Surgeons, is this little volume, the production of one of the most erudite certainly of the Professors. But, whatever may be the character of the author, it is our duty to look only to his work, with a full conviction of the truth of the motto of the learned Michaelis, *libera veritas:* to point out the flaws, which the skill of the artist may have concealed by the setting, as well as to determine the purity of the water, and the intrinsic value of the gem.

Our author prefaces his enquiry with a very flattering, but well merited eulogy, on his predecessor in the professorial chair, the early preceptor of his professional studies, Sir William Blizard; and recapitulates those advices by which he was accustomed to rouse the enthusiasm of the students to the ardent prosecution of science. Some praise is also bestowed on Sir Everard Home, for the manner in which he has pursued the path of science pointed out by Mr. Hunter, the probability and rationality of whose theory of life Mr. Abernethy has chosen as the theme of these discourses.

In order to prevent any misconception of his terms, the learned Professor thus defines his meaning of the words *theory* and *hypothesis :*

"By the word theory I mean a rational explanation of the cause or connexion of an apparently full or sufficient series of facts: by hypothesis, a rational conjecture concerning subjects in which the series of facts is obviously incomplete."—p. 8.

Now, although we think that we understand our author's meaning, yet we believe we may safely assert that the defi-

nition of the first term is by no means so perspicuous as it ought to be. By the word *theory*, we understand a rational explanation of the cause of any circumstance, deduced from a full and connected series of known facts. But it is not necessary that a theory should involve "the explanation of the cause" of the series of facts on which it is raised; it is sufficient that the facts themselves be known. The explanation of the cause of many of the series, or perhaps of the whole, may be purely hypothetical, and yet the theory, founded on these inexplicable facts, be perfectly rational and probable. Thus we explain crystallization, by saying that it depends on the contiguous attraction of the particles of the dissolved salt, according to the laws of aggregation; but, if we are asked to explain the cause of attraction, any answer we can give must be purely hypothetical, or imaginary. That our author, however, thinks as we do, although his definition does not authorize the conclusion, we are fully satisfied by the following sentence, which occurs in the same page as the definition. "Believing the facts collected by the ingenuity and industry of Mr. Hunter, to be sufficient to establish his opinions respecting life, I have therefore called them, a theory." We do not point out these circumstances to shew our critical acumen, or with any illiberal feeling towards the author; but because we are of opinion that in a professedly philosophical disquisition, a distinct and complete idea should be annexed to every term employed; without which it is impossible to affix limits to the errors in reasoning to which we might be exposed.

We fully agree with the learned Professor on the advantage of theorizing, on correct principles, in every science; but particularly in that of medicine. The stale cry of experience being superior to theory, is supported chiefly by that class of practitioners, which on the continent is denominated *routiniers;* and which in this country, as well as in every other, is made up equally of physicians, surgeons, and apothecaries. It is not our intention to depreciate the labours of this class. As practitioners the community could not well do without them; but, at the same time it must be allowed, that it is not to them we are to look for the advancement of the science. The simple collection of facts, however valuable, cannot with more propriety be denominated science, than a great many bricks and other building materials, loosely thrown together, can be called a house. It is by the use which is made of these facts, in arranging and comparing them, in framing general speculations, establishing principles, and verifying opinions, that science is constituted, and its boundaries enlarged. A preconceived hypothesis may, even, lead to such an accurate survey of all the facts connected with a subject as to produce a rational

and probable theory; and Mr. Abernethy is of opinion, that it was by such a process of the mind that Mr. Hunter arrived at his conclusions respecting life.

"It is highly probable," says he, "that it was his hypothesis respecting life which incited him to enquiries by which he has been able to supply the deficient facts, so as to establish his conjectures, or convert his hypothesis into a theory."—p. 13.

—a statement, however, which we do not think very creditable to that celebrated physiologist.

Had our author attended to what we conceive to be the proper order of arrangement, he would have introduced his eulogy on Mr. Hunter immediately after his remarks on the advantages of theorizing, instead of introducing it as a kind of episode after having commenced the proper subject of his discourse. In order that our examination of his mode of handling that subject may not be interrupted; and because we consider it as a very favourable specimen of Mr. Abernethy's style, we shall extract the paragraphs which contain his character of the celebrated author of the Theory of Life, leaving it to our readers to determine how far the portrait is true to nature.

"The opinions of Mr. Hunter deserve at least to be respectfully and attentively considered. That he was a man of genius, according to the beautiful definition of that quality given by Dr. Johnson; that he possessed the power of mind that collects, combines, amplifies and animates, the energy without which judgment is cold, and knowledge is inert; cannot I think be doubted by any one who has carefully considered his writings. That he was a man of uncommon industry, by which he collected abundance of facts, will be admitted by every one who has even beheld his museum. That he was a man of constant and deep reflection, is to me equally apparent.

"Many persons have genius without industry; others industry without genius; and many who possess both are still deficient in judgment.

"I here beg permission to explain the notions I entertain of that act of the mind by which we form our inferences, opinions, or judgments. I shall by this means at once unfold what it is that, in my estimation, gives currency and value to the opinions of any individual, and entitles them to the attention of others. The human mind has the power of holding, as it were, in review, a series of facts or propositions, and steadily contemplating them so as to arrange, assort, or compare them till we form some deduction respecting them. This power seems to belong exclusively to man, and is the basis of his reasoning faculty. That mind is the strongest which can contemplate the greatest number of facts or propositions with accuracy; and his judgments are generally the most correct, who omits to review none of the facts belonging to the subject under his consideration. It was this power of mind that so eminently distinguished Newton from other men. It was this power that enabled him to arrange the whole of a treatise in his thoughts, before he committed a single idea to paper. In the exercise of this

power, he was known occasionally to have passed a night or day entirely inattentive to surrounding objects.

"That Mr. Hunter was also a man of constant and deep reflection, that he possessed this enviable power of mind, so essential to the perfection of the intellectual character, is to me sufficiently apparent; for I know of no opinion of his that was lightly or loosely formed, or that was not logically and cautiously deduced from the facts before him: and though from the subsequent increase of knowledge, the validity of some of his opinions may now be doubted, yet most of them have from the same cause become more firmly established. With all his genius, knowledge, and reflection, Mr. Hunter was not, however, a brilliant character amongst us. He had not the happy talent of displaying the stores of his mind, nor of communicating to others the same perception of the importance of his facts and opinions as he himself entertained. Perhaps it may have arisen from my attending more to his facts and opinions than to his mode of explaining them, that I have been led to form so high an estimate of his intellectual powers. I can draw no other inferences from the facts than those which he has drawn, and therefore am I a convert to his opinions."—p. 18—22.

In entering on the proper consideration of his subject, our author, after noticing the diversity of structure which anatomy displays in the different parts of the body, proceeds to observe that, when we reduce it to its elementary parts, "we find that every organ, and every portion of it, is composed of few and simple vessels, a few and simple fibres; that by these it is originally formed, kept in constant repair, *endowed with animation, sensation, and motion*."—p. 15. We have marked the latter part of this quotation in italics, to direct the attention of our readers more particularly to it; for although we allow that the body is formed, and kept in repair by the action of simple living fibres and vessels, yet we would ask, on what depends the action of these fibres and vessels? If the answer be such as we anticipate, "vitality," that principle, which, to use the learned Professor's own words, "does not depend on organization," and without which organization would be of no avail—we would then enquire, is it not this principle which endows these fibres and vessels, the congeries of which constitute the various organs of the animal frame, with animation, sensation, and motion? We have no difficulty in conceiving how these simple fibres and vessels, forming nerves and muscles, are the media of sensation and the instruments of motion to the body, or the visible means by which motion and sensation are produced, during the life of the animal: but that they themselves endow the body with animation, sensation, and motion, is to us incomprehensible. That Mr. Hunter himself thought as we do, is evident, from the latter part of the following definition, quoted by our author, and with the whole of which we perfectly accord.

"In speaking of the properties of life, he says it is something that prevents the chemical decomposition, to which dead animal and vegetable matter is so prone, that it regulates the temperature of the bodies it inhabits, and is *the cause of the actions* we observe in them."—p. 17.

"I now proceed," continues Mr. Abernethy, "to consider the structure and functions of those fibres which constitute the muscles, in order to introduce the discussion of the probability and rationality of Mr. Hunter's theory, as a cause of irritability."—p. 22. Although we regret it, yet we conceive it to be our duty to point out again *(en passant)* the looseness and inaccuracy of the language employed by our author. Mr. Hunter's theory, certainly, may explain or point out the cause of irritability; but that it, or any other theory, can be the cause itself of irritability, we are not prepared to admit. But to our subject—After stating that the muscular fibre is formed from the fibrin of the blood, and noticing the diversity of opinion maintained by different microscopical observers, "respecting the ultimate fibres of muscles," Mr. Abernethy details, with commendable diffidence, his own observations, made with a solar microscope, which magnified about 500 times.

"The fibres were slightly undulating, and one set terminating, another began: neither were the sets of fibres of considerable length. The muscular fibres were connected by cross threads of common cellular substance."—p. 25.

We cordially agree with the opinion, that this part of the subject is to be regarded as curious only; but "unimportant as to any conclusion that may be deduced from it."

The phenomena of muscular action are well described, and the examples judiciously selected. In some muscles, as certain sphincters for instance, the irritable principle seems capable of continued exertion, whilst in others "it seems evidently to be in general susceptible of fatigue, and inclines to be at rest." The learned Professor objects to the expression, "exhausted," and prefers the word "fatigued," when applied to irritability. We confess we do not feel the force of the objection; and can as readily conceive that there is an exhaustion and renewal of the irritable principle, whatever it may be, as that it is fatigued and again recovers its energy. The opinions of the moderns as to the cause of the phenomena of muscular motion, are next discussed. Our author first refutes that hypothesis which supposes "contraction to be the effect of some chemical change occurring in the part:" and then, having also dispatched that which regards it as "a property of the muscular fibres," he proceeds to enquire into the probability of Mr. Hunter's opinion, which he states to be the following:

" That irritability is the effect of some subtile, mobile, invisible substance, superadded to the evident structure of muscles, or other forms of vegetable and animal matter, as magnetism is to iron, and as electricity is to various substances with which it may be connected."—p. 39.

To be convinced of the probability of this opinion, says our author, it is necessary to believe that magnetic and electric phenomena depend on the operation of " a subtile invisible substance, of a very quickly and powerfully mobile nature."

" The phænomena of electricity and of life correspond. Electricity may be attached to, or inhere, in a wire; it may be suddenly dissipated, or have its powers annulled, or it may be removed by degrees or in portions, and the wire may remain less and less strongly electrified, in proportion as it is abstracted. So life inheres in vegetables and animals; it may sometimes be suddenly dissipated, or have its powers abolished, though in general it is lost by degrees, without any apparent change taking place in the structure; and in either case putrefaction begins when life terminates.

" The motions of electricity are characterized by their celerity and force; so are the motions of irritability. The motions of electricity are vibratory; so likewise are those of irritability. When by long continued exertion the power of muscles is fatigued, or when it is feeble, their vibratory or tremulous motions are manifest to common observation, but the same kind of motion may be perceived at all times by attention, as has been shewn by Doctor Woolaston in the Croonian Lecture for the year 1810. It is then I think manifest, that Mr. Hunter's conjectures are the most probable of any that have been offered as to the cause of irritability."—p. 42.

In reviewing these passages, we do not mean to offer any conjectures as to the cause of irritability; but we cannot avoid observing, that we do not consider it strictly philosophical to conclude, that, because the phenomena of electricity and of life correspond, in some particulars, their causes are either identical or analogous. Vegetables possess life as well as animals, and appear, in some instances, as in Mimosa *Sensativa*, Dionæa *Muscipula*, Hydysarum *Gyrans*, Drosera *Rotundifolia*, &c., to be endowed with sensation also; but as we cannot perceive any nerves attached to their structure, we are authorized in concluding, that, although vegetables possess irritability, yet they are void of sensation, which cannot exist without a nervous system. In the same manner we may conclude, that motions occurring in bodies excited by the magnetic or the electrical fluids, although closely corresponding with those produced on the organs of a living body by mechanical or mental stimuli, may depend on totally different ultimate causes; for the simple reason, that the one set of substances are composed of inert matter, while the other is endowed with vitality: or, in plainer language, that *electricity is not life.* At the same

time we subscribe to the inferences drawn by Mr. Hunter, and quoted by our author :—

"That life must be something independent of organization, since it is able to execute the same functions with such diversified structure, and even in some instances with scarcely any appearance of organization at all."—p. 46.

Our author concludes his first lecture by observing that the discoveries of Sir Humphrey Davy appear "to realize the speculations of philosophers" as to the Anima Mundi. "The opinions," adds he, "which in former times were a justifiable hypothesis, seem to me now to be converted into a rational theory." How far his readers may be disposed to accord with this assertion we will not pretend to determine.

The second discourse commences with a masterly sketch of the anatomy of the nervous system; after which the lecturer "hastens to the principal object of the lecture—to examine how far Mr. Hunter's Theory of Life seems adequate to explain the phenomena of the nervous functions."

In discussing this part of his subject, Mr. Abernethy first proves the truth of the generally received proposition, "that all sensation is in the brain, and that all volition proceeds from that organ." He justly conceives that the "want of elasticity and tension, and the pulpy origins and terminations," of the nerves, completely sets aside the opinion that their functions depend on mechanical vibrations; and then proceeds to point out the probability and rationality of Mr. Hunter's hypothesis "of a subtle and mobile substance inheriting the nerves." In this Mr. Hunter agrees with Haller, except that he does not suppose this fluid to be confined in tubes, an opinion to which the philosophy of the present day is highly favourable. We think our author extremely happy in his illustration of this point.

"The celerity," says he, "with which motions are transmitted from the tangible extremities of nerves most distant from the brain, and the celerity with which volition is transmitted to the muscles, in consequence of sensations thus induced, are sufficient to convince us that such effects must be produced by the motions of a very mobile substance. It is not necessary to suppose that when such motions are transmitted along the nervous chords, an evident motion of the visible matter of those chords should be induced. Electrical motions take place along a wire without occasioning any visible motion of the metal itself.

"Formerly, it was thought that the motions of the nerves that cause sensation, were the effect of an impulse made on their tangible extremities, which was propagated along the chord to the brain. It seems to be an improvement in modern physiology, to attribute sensation to an action begun in the nervous fibrils, in consequence

of the stimulation which they suffer from such impulses. This opinion is contended for by Dr. Darwin, in his paper on Ocular Spectra, published in the Philosophical Transactions; and Sir Everard Home has shewn, that the living principle of nerves has an irritability belonging to it resembling that of muscles, and capable of causing a contraction in them when they are divided.

"The opinion that sensation is the consequence of an action begun in and transmitted through the nervous fibrils, assists us in understanding how our sensations may be very vivid from the slightest impulses; such, for instance, as take place in the application of odour to the olfactory nerves; for it is not the impulse, but the consequent action, that is transmitted to the sensorium: and why we may have no sensation from the most violent impulses; for such we cannot but suppose to occur, when a man is shot through the body, or has a limb removed by a cannon ball; occurrences which have however happened without any distinct feeling intimating the event."—p. 70—72.

Pursuing the subject with all his characteristic ingenuity, the learned Professor cautiously fences himself against any attack which might be made upon him, as favouring by his arguments the doctrines of materialism. After detailing the usual examples in support of the proposition that the mind and the actions of life affect each other, he concludes by observing—

"Though these facts may countenance the idea of the identity of mind and life, yet have we good reasons for believing that they are perfectly distinct. Whilst, therefore, on the one hand, I feel interested in oppugning those physiological opinions which tend to confound life with organization; I would, on the other, equally oppose those which confound perception and intelligence with mere vitality."—p. 78.

Our author ably advocates the opinion of Haller, that irritability and sensibility are distinct principles, or that muscles have a vis insita, independent of the vis nervea. What we have already mentioned regarding the irritability of vegetables, and some moluscæ, in which there are no traces of a nervous system, is brought forward among the proofs of this opinion; and the fact of pain being referred to an amputated limb, even after it is rotten, is aptly adduced "to shew the integrity of the sentient principle remaining in the brain."

The last observation which the learned Professor brings forward in support of his opinion of the probability of Mr. Hunter's theory, viz. that "the varying and the strong retention of life by seeds, and some kinds of vegetables and animals, are facts which seem more satisfactorily solved by Mr. Hunter's Theory of Life than by any other," does not appear to our minds so decidedly satisfactory as he presumes it to be; al-

though we must confess that we are not immediately prepared with arguments to controvert it.

Upon the whole, although we must allow our author the merit of being an easy and elegant writer, of displaying great ingenuity, and possessing the art of placing his facts in the most striking point of view; and although he has certainly advanced, in some degree, the probability of Mr. Hunter's hypothesis, for we cannot yet bestow on it the epithet of Theory—yet, in our minds at least, the question remains nearly in the same state in which Mr. Hunter found it. We know vitality to be present by its effects, and can explain many of its phenomena; but, if we are required to say what the principle of life actually is, we are forced to pause. We search in vain for a satisfactory solution of the question in the schools of philosophy. In the flights of imagination we may find amusement; but in sober earnest we are obliged to acknowledge our ignorance, and content ourselves with regarding *life* as an emanation of the Deity, breathed upon all organized matter, astonishing and incomprehensible.

III.

The Art of Preserving the Sight; and of Re-establishing and Strengthening it when it is become Weak, &c. &c. with Observations on the Inconveniences and Dangers arising from the Use of common Spectacles. 12mo. pp. 234. London. 1814.

Though written on a subject of importance, we do not feel that this little volume, from the manner of treating that subject, properly falls under our cognizance. It is rather intended as a popular guide, than as a professional disquisition.

Among some maxims doubtful, and some objectionable, there are many, which, if prudently acted upon, might prove beneficial. But much of the force of the precept is lost in a diffusion of style, and a dilatation which seems to unfit it, in a great measure, for a book of popular instruction; a purpose that would have been far better answered by a series of aphorisms, without explanations which leave the reader but little informed of the rationale upon which the precept is founded. We allow the author credit, in the fullest extent, for his intention; and we admit, in many instances, the rules he has laid down may be safe and useful guides.

PART III.

SELECTIONS.

On the Chemical Knowledge of the Chinese, in the 8th Century. By JULES KLAPROTH*.

"So little is known of the state of Chemistry among the ancients, and particularly among the people of Asia, that the following extracts from a Chinese work, which treats of that science, must prove interesting, inasmuch as they shew, that many centuries have passed since that people had some ideas, although certainly incorrect ones, regarding the effects of oxygen.

"Among the manuscripts brought from China by the late *M. Bournon*, is one containing a small collection of chemical and metallurgical experiments, from which I copied, in 1802, the most interesting passages.

"This work, which consists of 68 closely-written leaves, is intitled *Pînn-loûnn-jîne;* which signifies, *The Confessions of the peaceful Dragon.* At the end of the preface it is stated that this book was composed by *Maò-hhòa*, in the year *Binn-chène;* the first of these named *Dschi-dĕ*, the ninth day of the third month. This name *Dschi-dĕ* is not that of an emperor, but the honorary title, or *Niêne-hháo*, which the Emperor *Ssoŭ-dsoŭnn* of the dynasty of the *Tânn*, gave to two years of his reign, and signifies *persisting in Virtue.* This Emperor reigned between the years 756 and 762 after Christ, and the first of those named *Dschi-dĕ* corresponds with the year 756 of our æra. The two other characters *Binn-chēne*, with which it is marked, designate the thirty-fifth year of the fifty-eighth cycle of the Chinese. As for the author *Maò-hhòa*, I have not found his name either in the *Ouánn-chénn-tounn-bóu*, which is a general Genealogical Dictionary, nor in the *Ouéne-hhiéne-toūnn-kào*, a very important historical and literary work. — It is easy to perceive that his system approaches to that of the sect *Dáo-chè.* In his first chapter, the author says: every thing that a man can feel and observe by the senses, and every thing that he can

* From the *Memoires de l'Academie Imperiale des Sciences de St. Petersburg,* tom. ii. p. 476.

conceive by his understanding, or his imagination, is composed of two fundamental principles, the *yânn* and the *ȳne*, which signify the perfect and the imperfect. This system is represented in the eight *Goúa-de-Foù-hhȳ*. The *yânn* is the power which accomplishes any thing; the *ȳne* is diametrically the reverse of it.

"Our author, however, departs widely from this definition in the course of his work; and it is evident that he supposes there are infinite modifications of these two principles, which manifest themselves in the forms of this globe. Upon this point he differs from the system of *Dao-ché*, who explains the difference in the configuration of visible objects, by supposing that continual changes are taking place in the proportions of *yânn* and *ȳne*.

"After having given this exposition of the principles of the system of *Maò-hhòa*, I will now make a few extracts from his work, and adjoin to them some short explanations.

"PÎNN-LOÛNN-JÎNE, CHAP. III.

"*Atmosphere*, or *Hhiá-chēnn-ki*.

"This *Hhiá-chēnn-ki* is the *ki* which rests upon the surface of the earth, and is elevated to the clouds. When the proportion of the *ȳne*, which constitutes part of its composition, is too great; it is not so perfect as the *ki* beyond the clouds. We can feel the *Hhiá-chēnn-ki* by the touch; but the elementary fire with which it is mixed renders it invisible to our eyes. There are many circumstances which purify it, and which can rob it of part of its *ȳne*. The chief of these are those things which are modifications of the *yânn*, such as the metals, sulphur *(Lieôu-hhouânn)*, and *Táne*, or carbon. These ingredients, when burnt, amalgamate the *yânn* of the air, and form with it new combinations of two fundamental bases.

"The *ký-ȳne*, or *ȳne*, of the air is always pure; but by the aid of fire it can be extracted from *Tchîne-chĕ*, from *Hhô-siaō* (saltpetre), and from the stone called *Hhĕ-tânn-chĕ*. It enters also into the composition of water, in which it is so closely united with the *yânn*, that its decomposition becomes extremely difficult. The elementary fire conceals the *ky-ȳne* from our eyes, and we know it only from its effects.

"*Note*. The preceding chapter is very important, and proves that the Chinese of the eighth century had some sufficiently clear ideas of oxygen, which they denominated *ky-ȳne*, or the imperfect part of the air; for what other principle of air can unite itself to heated metals, sulphur, and carbon, and form with these new compositions? But the knowledge of the Chinese upon this subject must have always remained very

imperfect, since they were unacquainted with hydrogen and azot, which form the other component of atmospherical air.

"I can give no satisfactory explanation of the words *Tchine-chĕ* (a kind of whet-stone), and *Hhĕ-tânn-chĕ*, a black stone which is found in the marshes; these words not being found in the ordinary dictionaries, nor in the Encyclopedia of Natural Histories of *Ly-tchénn*, intitled *Bùne-çào-gānn-moŭ*. Nothing having changed in China, but the nomenclature of natural productions, the old works which treat of these are, without commentaries, unintelligible to the Chinese themselves.

"The assertion of our author, that water is a compound of *ky-ȳne* and of *yânn* is interesting, as Europeans so long believed that it was an element. The following chapter throws still more light upon the nature of its decomposition.

"CHAP. IX.

"*Of the Metals.*

"There are five principal metals, besides the *Guīn*, or gold, viz.

鉛錫鐵銅銀

"*Yne*, silver—*Toûnn*, copper—*Tiĕ*, iron—*Ssiĕ*, tin—and *Yêne*, lead.

"Gold is the most perfect *(yânn)*, and is in general employed as the symbole of the perfection of matter, because it contains none of the *ȳne*; it therefore governs the four quarters of the world. Silver contains a small portion of it *(ȳne)*; copper still more; and lead is the most impure of all the metals. Gold never amalgamates with the *ȳne* of the air, and is always found native. It is not altered by the greatest heat.

"If silver be freed from the *ȳne*, it becomes gold; but as it is always intimately combined with its sulphur, this operation is extremely difficult. It is the silver of the mountain, *Ssi-lôunn-chāne*, in the *Tiēne-dschoŭ* (Hindostan) only, which undergoes this change. *Laò-dsù* knew how to transmute every kind of silver into gold; but he did not practise the art, as he himself was the proprietor of the mountain of gold.

"Copper is found native in the mountains, mineralized with the *ky-ȳne*, or with sulphur. When it is repeatedly melted, it loses much of its redness. It is too closely combined with the *ȳne*, to allow it to be separated from it. It

attracts easily also the *ky-ÿne* of the air, of water, and *bē-fâne* (alum), from which composition results the

銅銹

Toúnn-sieóu, or verd de gris.

"To produce a beautiful green colour from copper, it is necessary to calcine a plate of this metal, and then to boil it with some

白礬

Bĕ-fâne (alum) in a sufficient quantity of water. After the water is cold, it will become green; and then some

鹻水

Guiene-chouy must be added, which will precipitate the green colour called

小綠色

Siaò-loŭ-chĕ, which may be employed for painting the leaves of plants and the bambou.

"To produce a blue colour from copper, three *Tçân* of filings of red copper must be mixed with seventeen *Tçân* of *Naó-chă*, and the mixture boiled with pure water. *Hhiéne-pânn*, who lived under the dynasty of *Hháne*, was the inventor of this colour.

"If copper be melted with the stone *Yânn-chĕ*, it takes a greenish colour, and becomes very hard. The utensils which were made of this copper, under the dynasty of the *Ssoúnn*, are much esteemed. It is believed that the eight *Goúa* of *Tai-hháo-foü-hhy* were engraved upon a tablet of this kind of copper.

"*Note.* *Bĕ-fâne*, or white fane, is alum; *Hhe-fâne*, or black fane, is sulphuret of iron; and *Cīnn-fâne*, or blue fane, is sulphuret of copper. The solution of natron (carbonate of soda), which is found in great quantity in Mongolia, and the northern provinces of China, is called *Guiene-chouy* — *Naó-chă* is sal ammoniac, which is found native in China and in Mongolia.

"I have not been able to discover what the stone *Yânn-chĕ* is, which is procured in the province of *Ssú-tchoüane*."

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

SURGERY.

I. On Amputations.—*(From Memoires de Chirurgie Militaire et Campagnes de D. J. Larrey*.)* — "After the battle of Fontenoy in 1745, a proposition was made to the Royal Academy of Surgery, (of Paris,) to determine what were the cases of wounds inflicted by fire arms requiring immediate amputation, as distinguished from those where this operation might with propriety be deferred. It is evident, that this proposition could be satisfactorily answered by those only who had practised in the field of battle, or in military hospitals; the prize consequently was adjudged to Faure, the principal army-surgeon of the day. At this time, when military surgery has experienced so much improvement from a continued warfare of twenty years, there ought on this subject to be but one opi-

* For the selection and translation of this article, we have again to acknowledge our obligations to Mr. Oldknow. The eminence and celebrity to which the varied talents of M. Larrey, (author of "Relation Historique et Chirurgicale de l'Expedition de l'Armée d'Orient en Egypte et en Syrie,") raised him under a government completely military, and that fully appreciated every means that secured or augmented its physical powers, justly entitle every thing he has published, as the result of his long and extensive experience, to the highest degree of confidence. His work, from which this is extracted, is not new, and has been some time in this country; and it is not a little extraordinary, that, considering its great importance to all military surgeons, it has never yet appeared in an English dress. But it is still more extraordinary, that we have not one modern work extant on military surgery in the English language; whilst almost every country of Europe has evinced an enlightened and politic attention to a department of military service so essential to the prompt movements and successful operations of armies. Happily the restored repose of Europe may render such works less necessary and sought for; but we really conceive a good translation of M. Larrey's Memoirs would be highly acceptable, and always useful in a country, whose armies are generally in the field in some part of the globe.—Editors.

nion; and from the situation I have held in the French army during the whole of this period, I consider myself in some degree competent to resolve this great and very important question.

"We may be told, that the amputation of a limb is a cruel operation, dangerous in its consequences, and lamentable to the patient from the mutilation incurred. However dexterously, therefore, the operation may be performed, and however successfully, it is still more honourable to preserve the limb. In answer to this it is to be observed, that amputation ought in no case to be performed, where there is a reasonable prospect of the limb being saved; or the comfort of the patient ensured by other means. We may remark, however, that the operation has been more successful with us than with Faure, who, out of three hundred amputations, saved the lives only of thirty individuals; whereas in our practice, three-fourths of those operated upon have been preserved, (some of whom had lost two extremities,) and this we attribute to recent improvements in surgery.

"*Upon immediate amputation.*—If a limb wounded by fire-arms cannot possibly be preserved, it should be immediately amputated. The first twenty-four are the only hours of tranquillity, of which we should be anxious to take advantage. Besides, many circumstances in the army may occur to render immediate amputation the more necessary. Among these we may reckon, first, the difficulty and danger of conveying the wounded from the field of battle to the military hospitals, especially when at a distance, or if the state of the atmosphere be very hot or cold. Secondly, the danger arising from a long confinement in a crowded hospital, by the production of fever and hospital gangrene, the liability to which is considerably diminished by amputation, which changes the nature of the injury into that of a wound of more easy and speedy cure. Thirdly, the occasional necessity of leaving the wounded behind, who may probably remain some days without having their wounds dressed; the danger of which is considerably diminished by amputation.

"*Upon the different Cases which require immediate Amputation.*

"Case I.—If a limb be carried away by a projectile body, amputation should be immediately performed. In this case delay is dangerous, for the skin, the vessels and the nerves being forcibly extended, the muscles lacerated, the tendons contused and unequally divided, and the bones more or less fractured; the effects of such general and partial commotion are the production of stupor and painful convulsions of the affected extremity, followed by local swelling, erythismus, often great hemorrhage, violent fever, and gangrene. It may indeed

safely be said, that many soldiers would have fallen victims to the hemorrhage only consequent on such injuries, were it not for the activity of our flying hospitals, (' *Ambulance Volante*,') by which we are enabled to dress all bad wounds on the field of battle*. We may readily conceive, therefore, that in such cases amputation is essential, and we might select many examples of the lives of the wounded being sacrificed, from omitting to operate, or from operating too late.

" Case 2.—If a projectile body strike against a limb, so as to break a bone or bones into several fragments, and violently lacerate or bruise the soft parts, amputation should be immediately performed, otherwise the parts so disorganized will mortify, or the same symptoms will occur as in the preceding case.

" Case 3.—If a body strike upon a limb so as to carry away much of its soft parts, and principal vessels, although the bone itself be not fractured, immediate amputation is necessary; for, besides the accidents which usually follow a great loss of substance, the extremity will inevitably mortify.

" Case 4.—If a body penetrate the fleshy part of a limb, fracture the bone, divide or lacerate the muscles, and destroy the principal nerves, although the main artery remain uninjured, immediate amputation is necessary on account of the

* The *Ambulance Volante*, proposed by Larrey, and attached to each division of the French armies, appears to consist of a certain number of two and four-wheeled light carriages, and single horses with panniers; (the latter being better suited to mountainous countries.) These are particularly constructed for the reception and conveyance of a certain number of wounded soldiers, from the field of battle to the nearest military hospital, and are attended by a certain number of medical officers, and other men chiefly selected from among the infirm soldiers, as an escort to defend them, and to assist in removing the wounded. Other carriages are used for the necessary surgical instruments, dressings, &c. &c. This ' Ambulance' also serves the purpose of conveying the dead from the field of battle. The Ambulance of the army of Italy (1797), was composed of three divisions of surgeons; each commanded by a surgeon of the first class, with two of the second class under him, and twelve assistant surgeons. The military escort, both of cavalry and infantry, was commanded by a first and second lieutenant, with a due proportion of non-commissioned officers, each division, including the military and medical officers, amounted to one hundred and thirteen, and the whole ambulance to three hundred and fourteen, with the chief surgeon at the head of the whole. For a more particular description of it, see the Second Volume of Larrey's Memoires de Chirurgie Militaire, p. 150.—Translator.

great laceration and general commotion of the limb thus produced.

"Case 5.—If a spent or rebounding ball strike a limb obliquely and violently, and bruise or lacerate the deep seated parts without inflicting any apparent injury on the skin, amputation should be immediately performed, unless, on careful examination, there be reason to believe, that the muscles only are disorganized, in which case an incision should be made through the integuments to evacuate the extravasated blood, and the event be patiently waited for. (A similar incision ought to be made in the *first* case also, to ascertain more correctly the extent of the injury, previous to the amputation.) To such accidents we should attribute the loss of many individuals, whose death is often ascribed to the wind of a ball. The invalidity of this opinion will be sufficiently demonstrated, if we consider, *first*, the direction and course of projectile bodies, and their relation to the air, through which they pass: *secondly*, the internal derangement of the body constantly observed in such supposed causes of death: and *thirdly*, the property of such elastic substances, as the common integuments, &c. when struck by a ball or other projectile.

"According to the law of physics, a solid body moving through an aeriform fluid, acts upon a column only of this fluid; the bases of which is nearly equal to the surface of the body in contact with it. Thus a cannon-ball, traversing the air, will displace only a portion of it nearly equal to its diameter. From the divisibility of this fluid, and its homogeneousness with the circumambient air, it divides and separates in various directions, and mixes with the atmosphere, without producing any sensible effect upon contiguous bodies. If therefore an injury be sustained, it must necessarily depend on the immediate action of the projectile. If we consider too, that the velocity of its course diminishes in an inverse ratio with the squares of its distance, we must know, that before it reaches its point of destination, this velocity is considerably diminished, and consequently *that* of the column of air which precedes it. They who maintain a contrary opinion, rest their arguments on the following experiment.

"If a portion of soft clay be placed upon a deal plank at a certain distance, into which a bullet from an air-gun is shot, the orifice of the hole will be of an oval form, and exceed two or three times the diameter of the bullet. This circumstance is attributed to the impulse of the column of air preceding the bullet, of which it becomes divested as soon as it penetrates the clay. But may not this with more propriety be ascribed to the obliquity, which the ball experiences in its course into and out of the soft and inelastic substance? When entering, it com-

mences its parabola; but in *returning*, the resistance and elasticity of the plank gives it another direction, and, according as its angles of incidence and reflection are more or less acute, there will be a greater or less separation of the particles of the clay.

"The different directions which the ball takes in its course, and the elasticity of the integuments, will now explain to us the occurrence of internal disorganization, with the loss of motion and sensibility, without any external solution of continuity, and often without the production of ecchymosis. To a certain distance a ball moves in a rectilinear direction: if at this time it come in contact with any part of our body, *that* part will be removed; but in the progress of its course, owing to the resistance of the air, and the earth's attraction, its motion is changed, so that it turns diagonally upon its own axis; and if it now strike upon a convex part of our body, it will, by its curvilinear motion, pass over almost the whole of its circumference; for the integuments of the body being elastic, yield to the impulsive force; but those parts situated underneath, and which present a greater resistance, as bone, tendon, muscle, and aponeurosis, become fractured and lacerated. Precisely the same effects are sometimes produced by the oblique passage of a waggon-wheel over a limb lying extended on the ground. At first sight, the part appears but little injured; by attentive examination, however, we find very considerable internal derangement. No ecchymosis is evident externally, because the communicating blood vessels between the skin and deeper parts are lacerated, and the effusion takes place in the various excavations made by the rupture of the muscular fibres, &c. where it is readily discovered by the touch.

"This reasoning is confirmed by experience. It is common for a soldier to have different parts of his dress carried away by a cannon ball without any injury being done to his body: or a ball may pass between his thighs and produce only a trifling ecchymosis upon the parts, which it slightly touches; or his arm may be carried away without injury to the thoracic organs*.

"To return to my subject: I am of opinion, that these cases require immediate amputation; the least delay would endanger the life of the patient.

"Case 6.—If a projectile body fracture the articular extremities of bones, (particularly the joints of the knee or ankle),

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* Here M. Larrey relates several cases in proof of his opinion, which possess no peculiar interest, and are therefore omitted in this translation.—Translator.

the ligaments being at the same time ruptured or lacerated; or if the propelled body be so buried in these articular extremities, or in the articulation itself, as to be incapable of extraction by simple and ordinary means, immediate amputation is indispensable. By the operation, the patient will avoid the severe pain, spasms, violent convulsions, acute fever, and considerable tension and inflammation of the whole limb, which constantly follow such injuries; on the contrary, if it be postponed, the life of the patient will be sacrificed to the delay.

"Case 7.—If a projectile body in passing over the fleshy part of the limb, should, for a considerable distance denudate the surface of the bone, without fracturing it, or doing extensive injury to the soft parts, amputation is nevertheless necessary. The violent percussion which the different parts receive, produces their disorganization; and if the injury occur to the leg, where the anterior surface of the tibia lies very superficial, it will be followed by insensibility of the limb, and coldness of the foot, the bone will be found divested of its periosteum to a considerable extent; the internal functions will, in process of time, become more or less deranged, and attended with great restlessness and anxiety; and the patient will complain of acute pain in the knee, from which he is desirous to be relieved by the loss of his limb. Under such circumstances, if we *refuse our consent*, mortification will shortly appear, and the life of the patient be endangered. It is presumed that the following cases will justify this opinion:

"A lieutenant, thirty-two years of age, received a wound from a small ball, which pierced the inferior part of the gastrocnemei muscles of the right leg, passing round the limb to the anterior and superior surface of the tibia, which it denudated in its course, lacerating likewise the integuments, which covered it. The fibula and tibia were fractured, the latter nearer to its condyles, without displacing the bone. The limb was insensible and motionless. Amputation was performed, and the patient did well.

"At the siege of Rosas, a cannonier was brought to me wounded by a ball weighing about two ounces and a quarter, which injured the anterior part of the leg, by passing in an oblique direction from the inferior and internal margin of the tendo achillis, about three-quarters of an inch above the malleolus to the superior and external part of the calf, separating in its course the integuments from the whole anterior surface of the tibia. The orifice made by its exit was small, compared with the size of the ball; some muscular portions were bruised and lacerated; the tibia was fractured, but not displaced; and the commotion it occasiond was so great, that the leg was almost entirely disorganized: the foot became cold, the pulse

small, &c. Under these circumstances I wished to amputate without delay, but having an opportunity of consulting with a very skilful surgeon, I solicited his opinion. He thought the limb might be preserved. I made, therefore, some incisions through the disorganized integuments, and applied the common dressings for fracture, moistened with salt and water. Being particularly situated, I was obliged to have the man conveyed to the hospital at Figuieres, at the same time requesting my friend, M. Ribes, to perform amputation as speedily as possible. He thought proper, however, to consult with his medical colleagues, all of whom entertained a different opinion to mine; but before night the limb mortified, and the man died on the following day. A case nearly similar to this, presented itself a short time afterwards to M. Ribes, who, profiting by the former one, was desirous of amputating immediately; he was opposed, however, in his views by a consultation of surgeons, who thought that the operation should not be performed until the primary symptoms had subsided; the operation was then performed, but it was too late, for the patient died. Two nearly similar cases occurred after the battle of Eglaw, to two officers, who being unwilling to submit to amputation, I consulted with one of our best surgeons that happened then to be with us. He thought the operation should not be performed, believing that both limbs might be recovered by the ordinary treatment in compound fractures. One of these officers died on the 8th or 9th day, the limb previously becoming gangrened. The other, after a long confinement, and great risk of his life from deep-seated suppurations, gangrene, and exfoliations of bone, preserved a shortened and deformed leg, having several fistulous ulcers, the foot being emaciated and perfectly useless. To this day he regrets not having had his limb amputated at the time of the accident.

"Case 8.—Immediate amputation is required, if a ginglymoide joint (as the knee or elbow) be laid open by a cutting instrument to any great extent, and there be an effusion of blood within its cavity. Such wounds, from the imperfect division and laceration of the ligaments and synovial membrane, and the exposure of the latter to the air, are followed by considerable inflammation, pain, suppurations, deep sinusses, caries, fever, and death. Many examples of which I have witnessed, from having delayed the operation in hopes of preserving the limb.

A horse grenadier was conveyed to the hospital two days after receiving a sword-wound upon the right knee-joint, which completely divided the patella, and injured the condyles of the femur. It was followed by a considerable hemorrhage, which a village surgeon had ineffectually attempted to stop by

pressure, so that there was great effusion of blood within the cavity of the joint and surrounding cellular substance. The fever and other symptoms having already commenced, amputation was not attempted, and the man died. There was found, on dissection, a quantity of effused blood occupying a cavity which extended one third up the thigh. The soft parts were greatly disorganized, the femur denuded of its periosteum, the articular cartilages destroyed, and the spongy substance of the bone was carious.

"A foot grenadier of the Imperial Guard received a sabre-wound, about an inch in extent, in a direction from within, outwards, upon the superior part of the right knee. He walked afterwards a distance of two leagues to the hospital. The extensor tendons of the leg were in part divided, on a level with the patella; the joint was laid open, and discharged its synovia. I proposed amputation, but my patient refused his consent; I therefore approximated the edges of the wound, as well as possible, to prevent the ingress of the air, and effusion of blood; afterwards applied the usual remedies to guard against bad consequences, without effect; for they occurred shortly, and the man, at his own request, had the operation performed on the fifth day. Notwithstanding the favourable symptoms which appeared immediately after amputation, the suppuration of the stump was suddenly, and without any assignable cause, suppressed on the 15th day; and in spite of the most active treatment, he died in two days afterwards of a malignant fever. If the cavity of the joint be penetrated by a small wound only, without any internal effusion of blood, it will in general heal, provided it be not too much compressed by dressings. Nor is amputation so necessary in wounds of the orbicular as of the ginglymoide articulations, the former being attended with less subsequent local and constitutional derangement than the latter. I can assign no certain reason why the ginglymoide joints should be more prone to irritation and inflammation than the orbicular ones, unless it be that they are more abundantly supplied externally with fibrous substances, and internally with nervous filaments and nutritive actions, and present likewise a more extensive surface. Should two extremities be wounded, so as to require amputation, the operation should be performed upon both immediately; for we have found the result almost as successful as if one limb only had been amputated.

"If a limb receive two wounds, one of which only requires amputation, (a wound, for instance, on the leg, with fracture of the bones, and one on the thigh of little importance,) the upper slight wound should be first dressed, and afterwards the leg should be amputated below the knee, provided the injury

of the bones do not extend to the joint, in which case amputation must be performed upon the thigh, and the upper wound dressed subsequently.

"It must be remarked, however, that whenever, on the receipt of an injury, delirium, convulsions, and inflammation immediately supervene, amputation should be postponed until these symptoms are subdued, taking care to avail ourselves of the first moments of quietude to perform the operation.

"*On subsequent Amputations.*—Although we are able to point out the cases requiring *immediate* amputation, it is not possible to determine *a priori* those which may *subsequently* demand it; for much will depend on the constitution, and the violence of the symptomatic fever. As a general rule, we may properly say, that until our endeavours to preserve a limb have proved abortive, amputation should not be resorted to. In this respect we differ from the opinions of Faure, who recommends all amputations to be performed on the subsidence of the primary symptoms, and not to be delayed, by the trial of other remedies, after the 15th or 20th day, a period less dangerous, in his opinion, than *that* immediately following the receipt of the injury. I am convinced that the partisans of Faure greatly err by a too rigid observance of this maxim, in not having recourse to immediate amputation in cases requiring it, and by frequently performing the subsequent operation without necessity.

What Faure has advanced respecting the general commotion of the system being increased by the operation, is not accurate. We, on the contrary, have uniformly observed, that it gradually diminishes, and shortly disappears*. That the mortality of our wounded after immediate amputation should bear so much less a proportion than with this practitioner, may be ascribed, as before said, to the improvements in surgery, and to the advantages which we possess in the Am-

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* Several cases are here related in support of this position; but as they possess no very peculiar interest, I shall insert only one example, which may, probably, be recognized by some of the Readers of the Repository. It is extracted from a letter, written by M. Fercoi, surgeon of the ship Jemmape, to M. Larrey, and attested by many other surgeons.

"During the naval action of the 1st of June, 1794, many of the severely wounded had their limbs immediately amputated; sixty of them were sent to the hospital at Brest; all were cured, except two, who died of tetanus. The surgeon of the ship Temeraire (which was captured), by the advice of the English surgeons, delayed operating upon his wounded until they should arrive in port; the consequence was, that they all died on their passage."—Translator.

bulance Volante, by which we are enabled to amputate at the earliest period.

"Admitting that, by a concurrence of fortunate circumstances, some of the dangerously-wounded have survived the primary symptoms—yet this proves nothing in favour of subsequent amputations; for, at the expiration of 20 or 30 days, Nature, being almost exhausted by continued sufferings, is little competent to support new trials: hence the operation becomes more hazardous. But should the vital powers again rally, doubtless the probability of success would be greatly increased. In this event, however, instead of amputating the limb, we should exert our utmost endeavours to preserve it; for its presence being no longer injurious to the system, it may hereafter become useful. From this time the future prospects of the patient brighten, and he congratulates himself in having resisted the advice of his surgeon. Instances of this kind are, however, occasionally met with from any practice.

"*On the different Cases requiring subsequent Amputation.*

"Case 1. *Unlimited Mortification.* — Here the nature and cause of the gangrene should be strictly investigated. If it arise from internal causes, it would be rash to amputate previous to the appearance of the line of separation between the living and dead parts. In this case the gangrene is preceded and accompanied by a malignant or nervous putrid fever, which must be subdued by internal remedies, before amputation can be performed. If it arise from external injury, the operation should be immediately resorted to, as described in my Observations upon Gangrene*.

"Case 2. *Convulsions attacking the wounded Limb.*—Amputation of the extremity, on the first appearance of tetanus, interrupts the communication between the wounded part and the other parts of the body, and, by emptying the vessels, removes the tension of the nerves, and destroys the convulsive motion of the muscles. These effects are followed by a general collapse, which favors the re-establishment of the excretions, procures sleep, and an equilibrium of the vital powers. The pain attending the operation does not increase the existing irritation; and *that* produced by the tetanic affection renders the operation less insupportable, especially if pressure be made upon the principal nerves.

"Case 3. *Vitiated Suppuration.*—In complicated fractures produced by fire-arms, it often happens, in spite of the most

* For a more particular account of this subject, see the LONDON MEDICAL REPOSITORY, vol. i. p. 469.—TRANSLATOR.

judicious treatment, that the suppuration becomes putrid, preventing the consolidation of the bones, and producing hectic fever, and colliquative diarrhœa: in this case amputation has sometimes saved the life of a patient, by stimulating the sinking vital powers, or by creating an inflammatory action on the surface of the stump. In hospitals, the process of cure is sometimes interrupted by the appearance of malignant fever. The stump becomes tumified, the integuments retracted and everted, and the bone projects. This affection is propagated along the limb to a greater or less distance, and the wound is finally converted into an ill-conditioned ulcer, incapable of cicatrization. In such cases it has been proposed to cut away the projecting parts, to a level with the retracted integuments; but on account of the consequent hemorrhage, from the difficulty there is in securing the deep-seated vessels, and from the certainty of adding to the already too great sensibility and irritability of the limb, this operation is not only useless, but dangerous. It is better to leave nature to herself, and in process of time the bone will exfoliate; and this cause of irritation being removed, the ulcerated surface of the soft parts will gradually contract, and acquire a more healthy action; the conical shape of the stump will, in about 50 or 60 days, disappear, and cicatrization will be completed.

"*Cases in which the Preservation of the Limb should be attempted, although the Appearances presented be such as to justify Amputation in the Opinion of other Authors.*

"In general, if the body of the bone be fractured by a bullet, without much loss of the soft parts, or laceration of the principal vessels or nerves, the limb may be preserved by the ordinary treatment. A striking example of this position is found in the case of General Morangier, who, at the last battle of Aboukir, received a gun-shot wound, which fractured the inferior extremity of the humerus, near to the cubit. The wound was dilated, and the fragments of bone extracted; after which, by proper dressings, the General was cured. It may be observed, however, that this rule is more applicable to the superior than to the inferior extremities, as ulcer and caries upon the latter are far more painful and difficult of permanent cure than upon the former.

"We are recommended by authors to amputate a limb when its principal artery is wounded, although other parts have received but little injury; but the success that has often been met with by securing the vessels only, should determine us, in such cases, to try this expedient in the first instance, and not to have recourse to amputation, unless indicated by subsequent events. It must be confessed, however, that such

cases require the greatest judgment and circumspection on the part of the surgeon.

"Amputation, as I before said, should be our last resource; but when the nature of the injury requires this operation, it should be performed immediately, i. e. before the appearance of what is called the primary symptoms. But if we are called to our patient when these symptoms are already manifest, we must not amputate until they have subsided. Lastly, the future safety and comfort of the patient will greatly depend on the skill and experience of his surgeon."

CHEMISTRY.

II.—In *Schweigger's Journal der Chimie*, (vol. vi. p. 232,) M. Klaproth has published the following notice '*On the Solubility of White Arsenic in Water.*'

"Solubility in water is a property which essentially characterises the white oxide of arsenic. Although this fact has been long known, yet, the proportion of water required has not been accurately determined. According to Bergman, eighty parts of water, at the temperature of 15° of the centigrade thermometer (59° Farenheit), dissolve one part of white oxide of arsenic, while the same quantity of the oxide requires fifteen parts only of boiling water for its solution: according to Navier, however, eighty parts of boiling water are requisite; and according to Hageu, thirty grains of white oxide of arsenic require four ounces of boiling water to dissolve them.

"These different statements determined me to endeavour to ascertain the exact proportions; and the result of my experiments was, that three parts of white oxide of arsenic can be held in solution by one hundred parts of water at a mean temperature. Having ascertained this, the statement of Aschof *, that one part of the white oxide of arsenic requires two hundred parts of boiling water, appeared to me extraordinary.

"As this result may give rise to errors in medical jurisprudence, I consider it my duty to point out the mistake of M. Aschof, and to show that my former opinions on this subject have been confirmed by new experiments.

"A.—In order to determine the solubility of the white oxide in cold water, I introduced twenty grains of it in the state of fine powder, into a flask containing ten ounces of water of the temperature of 12° *Reaum*, (59° *Faht.*); and left the mixture for twenty four hours, during which time it was frequently agitated.

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* See *Schweigger's Journal*, vol. v. p. 217.

"The undissolved part having been collected on a filter, and well dried, was found to weigh eight grains, consequently twelve grains only were dissolved. We may therefore conclude, that one thousand parts of cold water can dissolve two parts and a half only of white oxide of arsenic.

"B.—A completely saturated solution of this oxide in water, can be formed only at the boiling temperature.

"To ascertain the degree of solubility, I boiled, for a quarter of an hour, two hundred grains of the pulverised oxide, in four ounces of water in a phial. As soon as the insoluble part was completely deposited, I decanted off the solution, which weighed eighteen hundred grains. This liquid, evaporated in a capsule which had been previously weighed, left for residue one hundred and forty grains of white oxide of arsenic; one thousand grains, therefore, of the boiling solution contain seventy-seven and three quarters of the white oxide.

"C.—It being essential to ascertain exactly how much white oxide of arsenic boiling water can retain after it is cold, ten ounces of boiling water were saturated with white oxide of arsenic in powder. After the solution was cold, I left the phial three days in cold water, during which time, a small portion of white arsenic was separated in the chrystalline form. Five ounces of the solution were then evaporated in a capsule, the weight of which had been previously ascertained. The residue, when well dried, was seventy-two grains of white oxide of arsenic; hence it follows, that one thousand parts of water retain, after cooling, thirty parts of white oxide of arsenic in solution; which result allows exactly three parts of the white oxide for one hundred parts of water. It is evident, that the cold of winter may modify this result.

"D.—The crystalline form of the residue of the evaporation may excite a suspicion of the presence of some water of crystallization, or that the white oxide was in the state of a hydrate, which would necessarily augment its weight. To ascertain this point, I boiled three ounces of water in a phial, with one hundred grains of white arsenic. All the arsenic was dissolved after a quarter of an hour's boiling, and the clear solution being evaporated to dryness, left one hundred grains of crystallized white oxide of arsenic. This experiment proves, that white oxide of arsenic does not combine with any water of crystallization, by the treatment which I have described."

III.—An extract of a letter from M. Dessaigues to M. Delametherie, published in the *Journal de Physique**, for

* *Journal de Physique,* vol. lxxviii. p. 336.

October 1813, details the following curious observations '*On the Phosphorescence of Compressed Gas.*'

"Many years ago, M. Mollet, a physician at Lyons, made known the curious fact, that light appears at the mouth of an air gun when it is discharged in a dark place. In 1810, in an essay which I read to the Institution *on phosphorescence produced by collision*, after having noticed several instances of a luminous appearance being produced by the dispersion of the parts of a body, I concluded, that the latent light which is in substances, is excited in two distinct manners, the one being the result of compression, the other of expansion.

"With regard to the latter mode, in order to satisfy my mind, I made the following experiments, which have been completely convincing.

"I took a cylindrical glass jar, open at both ends, and covered one orifice of it with a moistened bladder, which I stretched well, and bound down with a pack-thread round the jar. I then left it to dry in the air, and when it was completely dried, placed the jar upon the plate of an air pump, and exhausted it in the dark. At the instant when the air, by its pressure, burst the bladder, owing to the vacuum which was produced under it, a very brilliant light illuminated the whole of the inside of the receiver.

"This experiment is very striking when performed at night. The light which is disengaged, is white, and is as intense as that produced by the combustion of oxygen and hydrogen gases, in the eudiometer of Volta; it is circumscribed in its breadth, but stretches from the top to the bottom of the jar. I can compare it with nothing so justly as those scintillations, which dart from the clouds during a tempest.

"When the bladder bursts before the vacuum is complete, the light is then feeble, reddish, and only apparent at the bottom of the jar; and it is generally more powerful and in greater quantity the more perfect the vacuum is before the bladder bursts. When the bladder bursts in two distinct points at the same moment, two luminous tracts are perceived; but when at one point, one only is seen.

"May not the lightning which precedes the noise of the thunder in a storm, be produced from a similar cause?

IV.—*M. Petazzi* has published* an analysis of the mineral water of Roisdorff, a beautifully situated village, about a quarter of a league from Cologne.

"The water is clear, crystalline, and without any opaline appearance of the surface. It has an agreeable taste, is brick, acidulous, alkaline, saline, but not at all ferruginous. To

* *Annales de Chimie*, vol. lxxxvii. p. 109.

judge of its nature from its taste, it would be classed among the alkaline acidulous waters; when poured from one vessel into another, a great number of air bubbles of carbonic acid gas are separated, which is also the case at the spring. The specific gravity of the water is 1.0089.

"The chemical analysis was made in March 1813, in rainy weather. The temperature of the spring was 46° 8 Faht., that of the air at the same time being 53° 6' Faht. The action of re-agents demonstrated, that the water contained carbonic acid, muriate of soda, muriate of lime, sulphate of soda, sulphate of lime, carbonate of soda, carbonate of lime, and carbonate of magnesia. The following are the proportions of each of these ingredients contained in four litres of the water.

Carbonic acid	23.356 litres.
Muriate of soda	4.266 grammes.
Muriate of lime	0.337
Sulphate of soda	1.163
Sulphate of lime	0.217
Carbonate of soda	3.544
Carbonate of lime	0.326
Carbonate of magnesia	2.809
Silex	0.043

"This mineral spring is situated between two other springs, one of which, twenty-five metres distant, is pure water; the other, which is fifty-six metres, is a chalybeate, so strong, that it cannot be used.

NATURAL HISTORY.

V.—*M. Fabbroni*, of Arezzo, has published an account of a very singular fall of coloured hail, which happened at Arezzo, in March 1813. After stating that showers of bricks had been mentioned by Pliny* and Titus Livy, but that their descriptions were ridiculed by the moderns, M. Fabbroni gives

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* As the chapter of Pliny on this subject is very curious, and at the same time short, we transcribe it for the sake of such of our readers as may not be in possession of his work.—EDITORS.

"Præter hæc inferiori cœlo relatum in monumenta est, lacte et sanguine pluvisse M. Attilio, C. Portio COSS. Et sæpe alias carne, sicut L. Volumnio, Servio Sulpitio COSS. Exq: ea non perputruisse quod non diripuissent aves. Item ferro in Lucanis, anno antequam M. Crassus à Parthis interemptus est, omnesque cum eo Lucani milites, quorum magnus numerus in exercitu erat. Effigies quæ pluverat, spongiarum fere similis fuit. Aruspices cavenda præmonuerut superna vulnera: L autem Paulo, C. Marcello COSS. lana pluvit castellum Carissanum, juxta quod post annum T. Annius Milo occisus est. Eodem causam dicente *lateribus coctis pulvisse*, in ejus anni acta relatum est." *C. Plinii Naturalis Hist. lib. 2, cap. 56.*

the following relation of the phenomenon which happened at Arezzo, of which he was an eye witness.

" On the evening of the 13th of March, 1813, the surface of the ground being almost entirely covered with snow, there fell a fresh quantity of snow, or rather loose hail, of a reddish-yellow colour, such as is often improperly called red.

" This hail began to fall about nine o'clock at night, and continued with intermissions until day break: the heaviest fall taking place a little after three o'clock in the morning of the fourteenth.

" There was much lightning during the night; the north wind blew at intervals with great force, and a peculiar sound was heard in the atmosphere, resembling that produced by a tempest at sea, to persons at some distance from the coast. The sky lowered as when it threatens snow; and some persons asserted, that they saw scattered over it reddish-yellow clouds. One or two very loud peals of thunder accompanied the heaviest fall of the hail.

" On the following day this hail was easily distinguished by its colour, forming a separate layer over the snow, which still remained white, although it was in a congealed state, so as in this particular very much to resemble the hail.

" The hail was equally coloured throughout, whether it lay in the middle of the town, on the plains, or on the neighbouring mountains. A quantity having been carefully collected, and put into a clean vessel, its surface became covered as it melted with a peculiar looking substance; and after its fusion it let fall an earthy deposite, while the water remained turbid for some hours.

" If it was carefully washed however, before it melted, until deprived of its colour, the remainder melted without letting fall any precipitate; and did not differ from the water from which the deposite was separated.

" This water, when filtered, was insipid, inodorous, transparent, without colour, not affecting the colour of litmus, nor rendering turbid the solution of nitrate of silver; but it became slightly opaline by the addition of acetate of ammonia in powder; and, in short, resembled common snow water. Three kilogrammes of this water reduced by evaporation to one decagramme, presented all the properties of well water, which had been exposed for some length of time in open vessels.

" The deposite being dried, (about one gramme of it having been obtained from three kilogrammes of the hail,) it formed an unpalpable powder, of an earthy appearance, soft to the touch, and of a dull nankeen yellow colour, without odour or sapidity, and completely incombustible. It was rough to

the tongue, shrunk before the blow-pipe, and became a cherry red, but yielded nothing to boiling water, even after long digestion.

"The action of sulphuric, nitric, and muriatic acids was separately tried upon this substance. All of them produced a brisk but short effervescence; and dissolved one part only of the substance. The solutions were of a beautiful citron yellow; but the tone of colour of the solutions was lowered by cooling. They all yielded a white precipitate, with oxalate of ammonia, and after this re-agent ceased to act, a precipitate as white, but much more copious, was obtained by means of carbonate of potass.

"The prussiate of lime formed in it at first a red cloud, which soon changed to a deep yellow, and then, after a little time, disappeared; a small quantity of Prussian blue being precipitated. The nitric solution became turbid by the addition of the nitrate of silver: when dried, it presented a white residue, which was slightly combustible; but which required a farther addition of the acid to render it soluble in water.

"The sulphuric solution, evaporated by fire, became of a deep yellow colour, and then black, with the disengagement of some sulphurous acid gas. When the evaporation was pushed to dryness, and the residue thrown into distilled water and filtered, the insoluble matter had the colour of bistre, was shining and acid, attracted humidity from the atmosphere, and assumed, in some respect, the appearance of artificial tanning, but the smallness of the quantity did not permit it to be accurately examined. The filtered fluid was white and acid; and by the addition of a little potass, it crystallized in tetrahedral pyramids joined at their bases.

"The carbonization of the sulphuric solution did not take place, if a little nitric or muriatic acid was previously added to the earthy deposite.

"It may be generally stated, that the acids dissolved it imperfectly only, even when assisted by heat: a considerable part of the substance submitted to analysis, always resisting the affusion of new portions of acid.

"The best method of procuring an almost complete solution, consisted in using sulphuric acid, and a considerable quantity of potass, although not sufficient to neutralize all the acid. By this means a salt was obtained, which had the characteristics of alum, although it contained a greater proportion of alkali than is requisite for the crystallization of common alum; and all the earth, except a small portion of silex, was dissolved.

"From all these observations we may conclude, 1st, That the coloured snow or hail which fell at Arezzo derived its colour from a very fine earthy matter, uniformly interposed between

the little crystals of hail, without being contained in their nucleus.

"2nd, That this substance was composed almost entirely of alumen, with a very little carbonate of lime, and a still smaller quantity of iron, some manganese, and a very small portion of silex: there was, besides, a very small portion of an animal or vegetable principle, capable of being carbonized by the action of sulphuric acid, and of corrupting the water formed by the melting of the hail.

"I refrain from advancing any theory of this phenomenon, except, that it certainly occurred during some great electric operation of nature; and cannot in any degree be attributed to the tempestuous force of the winds. No hurricane was felt in the town or its vicinity; nor could any traces of the passage of one be ascertained. Besides, the wind could not produce effects perfectly identical in every respect on so great a scale, neither could it pulverize the earth, nor distribute it with so much regularity throughout the hail. Finally, the surrounding soil being every where covered with snow, and moist to a considerable depth, it is impossible to suppose that the wind could have taken up the argillaceous earth, to transport it by its current through the air.

VI.—As verifying M. Fabbroni's account, and containing particulars equally curious in themselves, we extract the following letters from the First Number of Gilbert's Annals for 1814.

1.—*Extract of a Letter written at Catanzaro in Calabria, by* J. De Pourtalez, *and communicated by* M. Delessart *to the Bibliotheque Britannique.*

"On my arrival in Catanzaro*, March 14th, 1813, I witnessed a very singular occurrence. The sky had been the whole day covered with clouds; and at three o'clock in the afternoon it became still more obscured by *a rose-coloured cloud*, which imparted a singular tint to every coloured body. The grass and the trees appeared more or less dark blue; and the flame of some lamps, which I observed in passing along the streets, had lost their yellow colour, and assumed that of Bengal-fire.

"Having been overtaken, before reaching the town, by a heavy shower of rain, I found, to my astonishment, that my hat and clothes were covered with a red earth, which the rain had deposited. The walls of the houses, also, had assumed a rose-coloured appearance from the deposited earth.

"The great darkness happening nearly at mid-day, and still

* Catanzaro is the capital of Ultra-Calabria, and stands on a height, not far from the east coast, near the Straits of Squillace.

increasing with the singular rain, threw the inhabitants of Catanzaro and its neighbourhood into the greatest consternation, and suggested the idea of an earthquake. The churches were filled with women and children; and the men interrogated each other with unsettled looks. Only two hours afterwards, however, the rain ceased, and a bright setting-sun dispelled their fears.

"In pursuing my journey on the following day, I was astonished to observe that the mountains, which were previously covered with snow, were coated with a rose colour, an appearance which they retained for a considerable time. The cloud and the *blood-coloured rain* had first passed over the town of *Cotrone;* the inhabitants of which, who do not appear to have inherited the courage of their ancestors, were more terrified than even their neighbours at Catanzaro: the women tore out their hair, and the men were seen publicly to castigate themselves: a carpenter, amongst the rest, beat himself so violently on the breast with a stone that he died next day.

"Near the little town of *Catro*, betwixt Cotrone and Catanzaro, it is said that many stones fell during the rain.

"The better-informed class of people from that part of the country ascribed this occurrence to an eruption of ashes from Mount Ætna; an opinion which, however, I do not think very probable. In the first place, the cloud, and the wind carrying it, came from the east or south-east, while Ætna is situated westward from Catanzaro. In the second place, this earth, some of which I procured by filtering the water collected in a hollow stone, does not appear to be of a volcanic nature. I am therefore rather inclined to think that it was brought from Africa by a strong wind across the Mediterranean*."

2.—*Extract of a Letter from* M. L. L. Linussio *to the Editors of the Bibliotheque Britannique, dated*

"*Tolmezzo in Friuli, 25th March,* 1813.

"In the night of the 13th of March, snow fell at Tolmezzo, and on the neighbouring mountains; and on the 14th it

* According to M. Pictet's opinion, this earth, of which a small sample was contained in the letter, has the appearance of very finely powdered and sifted brick-dust; which may well be regarded as of volcanic origin. I perfectly recollect to have found, on a hill in the island of Nakahiwa, a solid stratum of such red brick earth, and to have brought a piece of it to our worthy mineralogist M. Escher. The extent of the spot it occupied was about a square toise, perfectly barren, while the rest of the hill was covered with verdure. Such an earth might also occur in volcanic regions as dust; and might be taken up by violent winds, and afterwards supported by the vapour of clouds.—*Horner.*

snowed the whole day. This snow was of a reddish colour, to the height of about 150 toises, and on some places to 300 toises, although at a greater elevation the snow was of its usual white colour. In Tolmezzo the snow was white to the thickness of about a Venetian quarte*; but over this there was a layer, two to three fingers in depth, of a reddish hue. In some parts, some large hail also fell. The wind blew moderately the whole day from the north-east; but towards night it increased to a hurricane. In the morning the barometer stood at 26″ 9‴, at noon at 26″ 9⅓‴, and in the evening at 26″ 10‴. The mercury in Reaumur's thermometer, during these different periods, stood at +5, +6, and +5$\frac{10}{2}$."

3.—*Extract of an earlier Letter from* M. Linussio *to the Royal Academy of Sciences at Berlin, dated*

"*February* 25, 1804.

"It has been observed that the snow which fell on all the mountains of Carinthia, to the height of 100 toises, on the 5th and 6th of March, 1803, had a reddish colour; but that above this height it was perfectly white. The coloured snow, when melted, yielded a turbid water, which deposited a clay-like sediment; while the white snow, on the contrary, afforded clear water, without any precipitate. It must therefore be supposed, that the earthy matter was not present at more than 200 toises above the earth, and could not have incorporated itself with the snow which fell on the higher regions. Might we not be allowed, from this fact, to suppose the existence of metallic and earthy matters in the atmosphere, which, by means of caloric, or any other principle, have been converted into gas; and thus approximate towards a natural explanation of the origin of Aërolites, or meteoric stones†?"

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* I cannot find this denomination mentioned as a measure for length in any metrologic work.—*Horner.*

† Saussure investigated the *red* coloured snow he frequently met with in his Alpine travels, and concluded that the substance, giving this colour to the snow, was probably the farina of a cryptogamic plant; "for," says he, "I have seen this vegetable mixture: and red snow occurs only at a certain season of the year, and in such Alpine regions as are rich with vegetation; but never higher." This opinion on the origin of red coloured snow, on high mountains, is contradicted by M. Ramond, who published a small tract on the subject in 1800. Although he confesses that he met with it on the Pyrenees, at heights of from 2,000 to 2,400 metres only, and at the period of the summer solstice, when the hot winds coming from Africa occasion the snow to thaw rapidly, and to flow in torrents; yet, he says, that the powdery substance,

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

VACCINATION.

Two Reports on Vaccination have been circulated: one of the National Vaccine Establishment, dated May 25, 1814; the other, attached to a Letter from the President of that establishment, Dr. Latham, to Lord Sidmouth, being "a Report of the State of Vaccination in Sweden," dated February 10, 1814.

The first proceeds to state—

"That the public confidence in the efficacy of Vaccination continues to extend through every part of the world, and the mortality from Small Pox to decrease in the same proportion. During the year 1813, the number of persons vaccinated at the nine stations appointed under the authority of this Board, was 4,274*; and some addition to this number may be expected in the current year, from the late establishment of three new stations. The attention of the Board has been particularly directed to the distribution of Vaccine Lymph, and 25,394 charges of it have been furnished to the public: it has happened not unfrequently that the genuine matter has been lost in a whole district, and that the supply thus afforded has reproduced the infection, and checked the Small Pox, which has been threatening to extend its ravages.

"The principal station has also served as a school for the practice of Vaccination; and, since its first establishment, nearly 500 surgeons have been instructed in the best modes of performing it, and have been enabled to introduce it in the most advantageous manner

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colouring the snow, sinks in water, and could not therefore be the farina of a plant. It nevertheless smells, when made hot, like opium or roasted succory, swells up in a greater degree of heat, and burns in the same manner as vegetable matters. Ramond declares that this red substance is glimmer, derived from higher mountains, which possess beds of it. For, says he, on such places only have I found red snow where this is the case, and upon this snow small swelled scales of glimmer, which in part had changed into red powder, colouring the snow, "*which bears the marks of vegetable bodies;*" a singular explanation, which appears to contradict itself.—*Gilbert.*

* It should be remarked that this is a very small proportion of the vaccinated in London, during that year. There are other Vaccine Establishments; besides, an immense number are vaccinated annually in the Metropolis by private practitioners.—Editors.

into the different parts of the British Empire, through which they have been dispersed. In London, the deaths from Small Pox have been 898, which is less than three-fourths of the mortality of the preceding year, though still somewhat greater than in 1811."

From authority it appears that the benefits of Vaccination continue to be diffused throughout the civilised world. That its effects have *totally* extinguished Small Pox at the Cape of Good Hope and Ceylon; and by its introduction the frequency of this last disease has been much diminished in India. That through the means of the Vaccine Lymph, carried to Persia by our Ambassador, Sir Gore Ouseley, " the sons and daughters of the Prince Royal of Persia, together with 14 or 15,000 Persians, had already been vaccinated, and that the practice was extending through Tehran, the capital of that kingdom."

" That the failures of Vaccination, which formerly occasioned so much alarm, are now become extremely rare, from the improved methods which have been adopted. Most of these failures appear to have arisen from the practice of vaccinating by a single puncture, and afterwards opening the vesicle, and taking a portion of the lymph for the purpose of propagating the infection. Many practitioners, reasoning from the analogy of the Small Pox, conceived that such a practice could be productive of no inconvenience; but experience has shown, that it sometimes frustrates the expected benefit.

" In one instance which had been thus treated, a fatal attack of the Small Pox ensued. But in most of such cases, even when the Small Pox actually occurred, the disease was so much mitigated, as to be devoid of danger. These accidents may, however, be almost always prevented, by exciting two or more vesicles, and by carefully observing that one of them should pass completely through all the stages of the Vaccine process, unopened and undisturbed. Whenever the slightest irregularity has occurred, the patient ought to be re-vaccinated, for his security.

" The extreme infrequency of failures, when due precautions are employed, may be estimated by the success of an individual, who resides near Conway in North Wales; and who has informed the Board, that he has vaccinated above 10,000 persons, without a single failure. Since the commencement of this Establishment, only one failure has been suspected at any of the stations under its immediate direction; and even in that case, the eruption dried up and disappeared more rapidly than in the regular Small Pox. On the whole, there are ample grounds for believing, that when proper attention is paid to the process, the failures from Vaccination are not more frequent than from the most apparently perfect inoculation of the Small Pox. Nor has the interval of sixteen years, which have elapsed since the publication of *Dr. Jenner's* discovery, tended in any degree to justify the hypothetical objection which was raised by the original opponents of Vaccination, 'that its power of preventing the Small Pox would probable last for six or seven years only.'

" But all the accumulated proofs of the utility of Vaccination have not yet occasioned its universal adoption; nor have the fatal results of Small Pox Inoculation led to its being entirely relinquished. By

far the most numerous, and all the eminent part of the Medical Profession, having abandoned this practice, some few of its members have only found the stronger motives for persisting in it, and for holding out to the poorer classes the fallacious pretence of performing the operation gratuitously; nor have arguments, example, or shame, prevailed on a certain class of persons to desist from a practice so pernicious; to which we cannot but attribute a great proportion of the mortality from Small Pox, which still occurs in this Metropolis, and which in all probability, from the number of unregistered burials, exceeds the actual returns of the weekly bills by about one half. The Small Pox has thus, by its continued existence in constant succession, become a much more destructive disease than the Plague, which has occasionally visited this country; and it is to be lamented, that the regulations for the prevention of the promiscuous intercourse of the Infected with Society at large, which have at different times been so prudently adopted with respect to one of these diseases, cannot, in the existing state of the laws, be extended with equal facility to the other."

The Swedish Report details, at length, the measures pursued by the Royal College of Health of Stockholm, under the direction of the King of Sweden, to insure the propagation and success of Vaccination in that kingdom.

"For the more effectual encouragement of the practice of Vaccination, the King has been graciously pleased to appoint rewards of two different kinds, Pecuniary Premiums and Honorary Medals. The latter are distributed, commonly in silver, but sometimes in gold, to those who have particularly distinguished themselves. In all cases, those who have deserved rewards, are humbly pointed out to the King, by the College of Health; and his Majesty has reserved to himself the right of assigning the proportions in which those rewards shall be distributed. It is also in the King's name, and with a certain degree of publicity, that these marks of his approbation are bestowed.

"For the honour of the Medical Profession in Sweden, it must not be forgotten, that although Inoculation for the Small Pox was one of the most lucrative branches of their private practice, and has been entirely superseded by the simple process of Vaccination, no one individual of the Profession has raised any obstacles against the Cow Pox; but every one has contributed to its advancement, by giving advice, information, and assistance, to the utmost of his ability. No single publication has appeared to call in question its high importance, and its superiority to Variolous Inoculation; which has been entirely discontinued ever since the year 1802, rather by a tacit and universal consent, than in consequence of any royal prohibition.

"It may therefore be asserted, that the Small Pox, that equally disgusting and destructive pestilence, which for many ages continued annually to send out of the world an immense number of young children, is now, through the influence of Dr. Jenner's inestimable discovery, so perfectly extirpated in Sweden, that it never can become epidemic, even if at any time, notwithstanding all the orders and all the vigilance employed for its exclusion, the infection should

make its appearance. Such, in the last twelve years, has been the effect of the King's wise and humane attention, of the unanimity and disinterestedness of the Medical Profession, of the patriotic zeal of the Clergy, of the good examples so promptly exhibited by the upper classes, and of the progress of information and civilization in the lower. (Signed) FR. HEDIN, M. D.
First Physician to the King, Medical Counsellor, &c. &c."

July 16th ult. the CENTRAL VACCINE SOCIETY of PARIS made its Report for 1812, from which it appears, that Vaccination is progressive; and, by its gradual extension, induces a fair hope, at no distant period, of utterly exterminating the Small Pox from France, as it has done from Sweden, &c. It is remarked, that "the diminution of mortality is invariably in proportion to the activity employed in propagating Vaccination." There died of Small Pox at Nantes in 1809, 233—1810, 189—1811, 77—1812, 42. At Strasburg in 1803, 518—1807, 284—1811, 14—1812, 1! In the 45 Communes of the Department of the Oise, the deaths of children under twelve years of age, in the ten years preceding the introduction of Vaccination, amounted to 13,770; in the last ten years, 10,310: saved, 3,460. In the Departments of the North the population has been increased within the last six years, 31,824. In 1812, 734,893 were vaccinated in the 106 Departments, making the total number since Vaccination was introduced into France, 3,035,765.

⁂ The immense resource, which the late government of France found in the silent, but sure effect of Vaccination, to supply the extraordinary waste of human lives in the late wars, must be obvious. But the avowal of the fact, in the late Report on the State of that Kingdom, places the utility and importance of Vaccination to every country, in the strongest possible point of view.—EDITORS.

The Effects of Ammonia in preventing Contagion.—THE vapour of ammonia has been employed under the impression that contagion might be an acid sui generis, or combined with some acid which had not been ascertained by analysis. Taking this for granted, it was thought the ammoniacal vapour once in contact would neutralize or so far decompose the septic matter of contagion, as to render it inert; for this purpose the liquor ammonia was used for frequently sprinkling the beds and rooms of typhus patients: and it was observed that then not one of the visitants or attendants caught the fever. The following case of one family is cited in proof of the efficacy of this practice. John Wright, pilot of South Shields in the county of Durham, in the year 1800, his wife, and five children, were all in a state of typhus fever. The man, his wife, and one child were in bed, two children were on chairs, and two on the floor, all cooped up in a small room, the weather at that time being very sultry: already a married woman and a girl thirteen years of age had caught the fever, but although their relatives and friends visited them after the ammoniacal vapour was used, not one was affected.

A METEOROLOGICAL TABLE,

From July the 21st, to August the 20th, 1814,

Kept at *Derby*, Lat. 52°: 58′ N.—Lon. 1°: 30′ W.

M	D	Therm. Morn.	Therm. Day.	Barom		Hyg.	Wind.	Rain.	Remarks, &c.
	21	49	68	29	.76	369	swbyw		Heavy Clouds
	22	55	66		.96	377	WbyN		Clouds
	23	51	77	30	.10	400	S by W		Light Clouds & Sultry
S	24	53	82		.00	470	SSE		Sultry
	25	57	80	29	.79	490	SSE		Clear & Sultry, Clouds
	26	57	77		.80	470	S		Light Clouds & Sultry
	27	51	79		.95	497	S by E		Ditto
	28	61	83		.82	434	Calm	.86	Dull & Sultry, thun. storm
	29	61	68		.76	418	SSW	.40	Clouds, Rainy
	30	51	71		.94	420	swbyw		Ditto
S	31	51	72		.95	431	swbyw		Ditto
	1	52	74		.84	456	W by S		Light Clouds
	2	53	75		.95	420	S by W		Ditto
	3	57	67		.90	350	swbyw	.04	Light Rain
	4	50	72		.95	447	S		Light Clouds
	5	56	71		.62	380	SW	.10	Showery
	6	54	68		.75	434	W	.03	Clouds and Rough Wind
S	7	50	59		.83	342	SW	.36	Dull and Showery
	8	51	66		.80	387	WSW	.07	Ditto
	9	51	63		.90	425	W	.04	Light Clouds, Rain
	10	52	66		.95	400	NNW		Dull
	11	49	66	30	.00	413	W	.02	Dull, Light Rain
	12	55	71	29	.95	382	S by W		Dull
	13	56	65		.78	302	W by S	.06	Dull, Showery
S	14	44	68		.78	452	WbyN	.13	Light Clouds, Storm
	15	45	64		.80	412	W	.13	Heavy Clouds, Storm
	16	50	61		.78	386	WbyN	.05	Ditto, Light Rain
	17	48	65		.89	404	W	.01	Cloudy
	18	55	64		.96	417	WNW		Dull
	19	40	61		.68	390	NNW		Dull
	20	41	67		.68	445	WSW		Dull, Clouds

Rain fallen in July, 2.34 inches.

On July the 23d the air became sultry, and continued so, with but few clouds and little wind, to the 28th, which was dull; and, owing to the calm, the heat was almost insupportable. The thermometer marked 83°, which is 3° hotter than the hottest day last year, (July 30th); towards evening a breeze sprang up, and about 7 P.M. a heavy storm of rain, accompanied with much lightning and thunder, began, and continued for three hours with little abatement: the effect upon the atmosphere was very considerable, for the thermometer marked only 68° on the next day. The wind was southwardly during the latter part of last month and the beginning of this, and then changed westwardly.

We have had light rains for twelve of the days in this month, and generally towards evening.

N.B. The time of taking the observations is between half past one and two: the thermometers register themselves.

No. 9. Vol. II.

A REGISTER of the DISEASES of LONDON between July 20th and August 19th, 1814, for the London Medical, Surgical, and Pharmaceutical Repository.

DISEASES.	DISTRICTS. 1 S. W.	2 S.	3 S. E.	4 E.	5 N. E.	6 N.	7 N. W.	8 W.	9 Surry side W.	10 Surry side E.	11 Hamp Highg	No. of Cases.	Fatal.
Anasarca	5	2		4	5	7	5	2	2	1		33	2
Ascites					2	6	2		1	1		12	2
Asthma	6	4	4		8	8	12		3		6	51	2
Acne	1				1					1		3	
Apoplexia	1	1	2		3		1	1	1			10	2
Aphtha		4	1	2	7	1	7		2	4	2	30	
Amenorrhœa	11	4	2	1	3	5	5		6	1	2	40	1
Asthenia	9	6		4	24				5	1	6	55	1
Abortio				1	3	1			2	1	2	10	
Bronchitis acuta	3											3	
——— chronica					2	1				1		4	
Cancer						1						1	
Chlorosis	4	3				2	3		2		4	18	
Cholera	21	9	7	10	29	17	24	11	10	11	2	151	
Chorea					1							1	
Cephalalgia	10	8	1	1	8	6	4	2	5		3	48	
Colica	2	11	4	8	4		7	4	4		2	46	
Catarrhus	16	16	9	6	21	6	13	12	7	2	6	114	
Convulsio	2				2			1	1	2	1	9	3
Cynanche Tonsillaris	12	5	1	3	7	8	11	12	5	7	9	80	
——— maligna		4	1	[illegible]				1	3			12	
——— Trachealis					1							1	1
——— parotidea						3	1		2			6	
Diabetes	2											2	
Dysenteria	1	6	3	1	14	1	6		5			37	1
Diarrhœa	23	33	13	19	18	23	17	30	14	1	18	209	
Dyspnœa	8			1	1	7	1	1				19	
Dyspepsia	20	16	8	19	10	3	22	5	10	2	11	126	
Dysuria	3	4			2			1			1	11	
Ecthyma				1	2							3	
Eczema					1	1				3		5	
Erythema					3				1	1		5	
Erysipelas	4	2	4	3	2	4	3	2	3	3	2	32	
Enteritis	1	3	1	1	1		1			1		9	4
Entrodynia		28		3		1		1	5		7	45	
Epilepsia					3		2	2	1			8	1
Febris remittens	16	17	6	7	12	6	4	7	8	8	6	97	
——— intermittens		12	2	4	2	1	1		2	1		25	
——— puerpera		1		2	1					3		7	
Gastritis					1		1					2	1
Gastrodynia	18	14	1	4	4	1	4	3	4	3	2	58	
Hæmatemesis	1	2			2		2	1			1	9	
Hæmoptoe	4	2	1	2		9		1		2		21	
Hæmorrhois	5			4	6	2	3		3	1	2	26	
Hepatitis			4	17	1		2	1	5	9		39	2
——— chronica					11							11	
Hysteria	2	4		6	11	3	7	1	7		8	44	1
Hysteritis	1						1			1		3	
Hydrocephalus	1	1				4			2	2		10	7
Hydrothorax	1			1	1	4	1		1			9	3
Herpes	3		3	4	1	4	3		4		4	26	
Hypochondriasis	1	6		1	3	2	1	1	1		1	17	
Icterus		2		1	1		3		1	2		10	
Impetigo	4				1		11					16	
Ischuria	1				2	1		1				5	

DISEASES.	DISTRICTS. 1 S. W.	2 S.	3 S. E.	4 E.	5 N. E.	6 N.	7 N. W.	8 W.	9 Surry side W.	10 Surry side E.	11 Hamp Hghgt	No. of Cases.	Fatal.
Leucorrhœa	8	4	1	2	7		9	2	2	1	2	38	
Lithiasis	1		1							1		3	
Lepra	1		1	1								3	
Lichen			1	1	7				3			12	
Lumbago					1	1						2	
Mania	1		1	2	3	5	3		1		1	17	
Menorrhagia	6	4	1	5	2	1	7	2	4	1	2	35	
Miliaria			1	1	1							3	
Morbi Infantiles*	17	7	11	6	15	19	12	41	11	47	6	192	5
——— Biliosi	29	15	28	4	16	1	15	23	17	42	8	198	
Nephritis		1		1	2		1					5	
Obstipatio	6	1	3	4	12	7	4	2	2		4	45	
Ophthalmia	12	9	8	2	10	7	13	3	3	4	3	74	
Odontalgia	1				1	1			2			5	
Phlogosis			2		2	1						5	
Paralysis	2	1	1	3	4	7		1	2	1	1	23	2
Phthisis Pulmonalis	5			7	6	6	6		1			31	9
Pertussis				3	5	8	3	1	3	13		36	4
Peritonitis				4		1	3		2			10	
Phrenitis						2	1					3	1
Pneumonia		5		3	5	4	4	3	4	1	2	31	5
Pleuritis				2		1						3	
Pleurodyne	2				1	1			1			5	
Podagra	2	1	1		5		1		2		2	14	
Porrigo larvalis					3		3					6	
——— scutulata	4		2		3	1			2			12	
——— favosa	2				1	1	1					5	
Psoriasis	2	3	1	12	3		2	6	3	1		33	
Pemphigus								1				1	
Purpura			1									1	
Pyrosis	1	3		4		1	2					11	
Rachitis						3			1			4	
Rheumatis. acut	12	14	1	10	16	2	4	1	5	2		67	
——— chron.	3	1	3	5	15	11	7		3	3	5	56	
Rubeola	3	9	1	5	6	4	5	7	7	4	9	60	1
Roseola	1			1								2	
Scabies	2		4		21	26	36		2			91	
Scarlatina simplex						1	1		3			5	
——— anginosa	3	8	2			1	1	2	1			18	1
——— maligna				2								2	1
Scrofula	7		2	2	10	4	8	2	5		3	43	1
Synocha					1							1	
Synochus			1		12				2			15	1
Sycosis Menti					1							1	
Tabes Mesenterica	1	2	1		2		7		2		2	17	4
Typhus	2			3	11	10	4	1	2			33	8
Variola				1		5	5	3	1			15	2
Varicella			3		5				5		4	17	
Vermes	5		1	1	3	8	2	3	6	1	3	33	
Vertigo	6		4	5	5		4		4			28	1
Urticaria	1	3		3	2	2	4	1	3		3	22	
Total No. of Cases	371	311	166	241	473	296	369	209	255	198	163	3066	
Total of Deaths													80

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Biliosi*, such Complaints as are popularly termed bilious but cannot be accurately classed.

*** *To render the Returns of Diseases full and complete, and with as little trouble as possible to Practitioners who will honour them with their assistance, the Editors will be happy to present printed Tables to any respectable individual who applies for them, and is willing to keep and return a Monthly Register of Cases occurring in his public or private practice. The returned Registers should be sent to Mr. BURROWS, Bloomsbury Square, between the 20th and 23d of every month.*—☞ The EDITORS will be infinitely obliged to their Reporters, if on the backs of their Registers they will insert any disease not mentioned in the list, and briefly notice any thing remarkable in the cases, or in the remedies applied. It is particularly requested that the fatal termination of every disease reported in the previous or present table be carefully noted in the column for Deaths.

vanced in years and of intemperate habits; and three others in aged women. The benefits of cleansing, fumigation, and separation of the sick were of the most decided advantage in stopping the progress of contagion. Pertussis is again rather extending, and there have been four deaths in thirty-six cases. But as before remarked on the deaths from this disease, as well as from those from Rubeola, almost all the patients were under the most unfavourable circumstances for recovery. Mania, in the last two reports stands particularly prominent. In the last two months there have been many cases of Prurigo among old and poor persons.

" A case of Colica Pictonum occurred in one of the workmen of a white-lead manufactory. He had no stool for two days; the tormina was very severe; one hand was slightly paralyzed, and very profuse perspirations broke out every ten minutes; pulse small 100; tongue furred. On questioning him, it was ascertained that he had been employed in sweeping an apartment which had been just emptied of white lead; and the dust of which, he imagined, might have been taken into the stomach. He was immediately ordered a warm bath, and to take f℥vj of castor oil with ♏xxx T. opii every second hour. No stools were procured until after the sixth dose was taken; but these were scanty: and the tormina still continuing, he was desired to continue his medicines, and a pill containing subm. hyd. g. iv. ext. hyosciami g. iij. to be taken between each dose, extending the period to five hours. On the following day he was much better; the hand was quite free, the perspirations abated, he had had six or eight copious stools, and the pain recurred only at long intervals. He, however, felt extremely debilitated, and had no appetite. He was desired to omit the pills, and take the castor oil once only in eight hours; and the following mixture —℞ Infusi Cuspariæ f℥ivss, Liquoris Potassæ f℥ij, T. Hyosciami f℥iss, Aquæ Cinnam. f℥i, M. Sumat. Cochl. amp. iij, 6[tis] horis. He was desired to continue the diet which had been taken throughout the attack, viz. mutton broth without vegetable. Under this treatment he got completely well in four days.

The subject of the attack of Mania was a young girl of fourteen. The disease had been gradually coming on for several months, shewing itself particularly towards the termination and commencement of each month. She had never menstruated. She had some years ago had attacks of epilepsy; and there was reason for believing that a hereditary predisposition to Mania existed in the family. She complained much of headache, was talkative, restless, and unmanageable; the pulse was hard and quick, and the bowels rather confined. Ten ounces of blood were abstracted from the arm, a cathartic ordered to be taken every morning, and ten drops of tinct. digitals, with the same quantity of tinct. hyosciami every four hours. Under this treatment the violent symptoms abated; and for the present she is apparently free from disease.

During the months of June and July an epidemic sore-throat prevailed in the First District, about Knightsbridge and Brompton. In one family of five children, that removed from the north side of London to that situation in May, it commenced soon after they changed their residence. It began with head-ache, excessive languor and drowsiness. In a few hours rigors and considerable fever, with symptoms of sore-throat, succeeded, with a quick and languid pulse. Upon examination, the tonsills and fauces were found covered with white specks; and in some, ulcers on the tonsills were completely formed. Sometimes aphthous spots extended down the œsophagus, and even into the nostrils, occasioning very troublesome excoriations. In two of the cases only there was suffusion on the skin, on the second or third day, but no distinct eruption. The severest of the cases was in a female of sixteen, who did not complain till some hours after she felt a sore-throat, and who did not come to the infected house till the end of June. No adult in the house received the contagion; but in others it went through whole families. An active emetic, followed by a calomel purge, always relieved the head-ache and fever, and suspended the sore-throat, if exhibited when the symptoms first appeared. After the *primæ viæ* were unloaded, by giving the sulphate of magnesia in infusion of roses,

and the diligent use of gargles, each patient recovered; but the tongue in every instance remained furred a long while. As the strength was greatly impaired, tonics were tried, but always increased the fever.

These children were not taken ill simultaneously, but at irregular intervals of some days; and what is certainly not very common, four of them were several times attacked with this epidemic, and each time in a manner precisely similar. The last affected was an infant nearly two years old, and somewhat disordered by cutting the first molares. Finding notwithstanding every precaution of ventilation, fumigation, &c. that nothing would prevent the recurrence of the disorder; and that the constitutions of the children were exceedingly infeebled, they were removed to Hampstead, a higher and drier situation; and in a fortnight they regained their health.

One case of Epilepsy superinduced Hydrocephalus and death; in one from dysentery, an abscess in the liver, and ulcers in the small intestines were found; in one case of Phthisis, ulcerated tubercles were seen, and in another, abcesses in the parenchyma of the lungs.

A case of Porrigo Favosa in a girl six years of age, was extremely severe on the scalp, and about the inguina and pubis; evacuants and low diet had been employed, with a constant increase of disease under various practitioners. The child had much fever, no appetite, and was excessively debilitated. Chalybeates, porter, and animal food restored the appetite and strength; the eruption soon subsided, and she rapidly recovered.

The fatal case of Gastritis was in a boy, 8 years old, who swallowed a small quantity of a substance picked up in the street, which contained a portion of arsenic. On examination after death, the stomach was found in a gangrenous state near the pylosis. The only peculiarity was the absence of pain, even on pressure, during the period (21 hours,) which the patient lived after eating the substance.

Dr. Pearson, Dr. Roget, Dr. Harrison, and Dr. J. Davy, will commence their Courses of Lectures on the Institutes and Practice of Physic, Materia Medica, Chemistry, Demonstrative Pathology, and Medical Jurisprudence, at the Theatre of Anatomy, Windmill Street, and at No. 9, George Street, Hanover Square, in the month of October. Particulars may be had of Mr. Hammerton, Apothecary, at St. George's Hospital.

Mr. A. Carlisle, F.R.S. will commence his usual Course of Lectures, on Surgery, Physiology, and Pathology, the first week in October. For particulars apply at the Lecturer's house in Soho Square.

Mr. Brooks's Autumnal Course of Lectures, on Anatomy, Physiology, and Surgery, will commence on Saturday, October 1, at two o'clock, at the Theatre of Anatomy, Blenheim Street, Great Marlborough Street.

Monthly Prices of Substances *employed in* Pharmacy.

		S.	D.
Acaciæ Gummi elect.	lb.		0
Acidum Citricum		28	0
—— Benzoicum	unc.	6	6
—— Sulphuricum	P. lb.	0	8
—— Muriaticum		2	0
—— Nitricum		4	0
—— Aceticum	cong.	4	6
Alcohol	M. lb.	4	6
Æther sulphuricus		10	6
—— rectificatus		12	0
Ærugo	lb.	7	0
Aloes spicatæ extractum		6	0
— vulgaris extractum		5	6
Althææ Radix		1	3
Alumen		0	5
Ammoniæ Murias		3	0
——— Carbonas		4	0
Amygdala dulcis		5	9
Ammoniacum (Gutt.)		8	0
——— (Commun.)		3	6
Anthemidis Flores		2	5
Antimonii oxydum			
——— sulphuretum		1	0
Antimonium Tartarizatum		6	6
Arsenici Oxydum		1	0
Assafoetidæ Gummi-resina	lb.	6	6
Aurantii Cortex		4	6
Argenti Nitras	unc.	6	9
Balsamum Peruvianum	lb.	30	0
—— Tolutanum		20	0
Benzoinum elect.		10	0
Calamina præparata		0	6
Calumbæ Radix		3	6
Cambogia		12	0
Camphora		9	6
Canellæ Cortex		3	6
Cardamomi Semina opt.	lb.	12	0
Cascarillæ Cortex		5	6
Castoreum	unc.	5	0
Catechu Extractum	lb.	2	4
Cetaceum		3	0
Cera alba		4	0
—— flava		3	6
Cinchonæ cordifoliæ Cortex (yellow)		8	6
—— lancifoliæ Cortex (quilled)		10	6
—— oblongifoliæ Cortex (red)		16	0
Cinnamomi Cortex		18	6
Coccus (Coccinella)	unc.	4	6
Colocynthidis Pulpa	lb.	8	6
Copaiba		7	6

Substance		S.	D.
Colchici Radix		5	6
Croci stigmata	unc.	4	6
Cupri sulphas	lb.	1	0
Cuprum ammoniatum		14	0
Cuspariæ Cortex		4	0
Confectio aromatica		12	0
—— Aurantii		3	6
—— Opii		6	0
—— Rosæ Caninæ		2	0
—— Rosæ Gallicæ		2	6
—— Sennæ		1	8
Emplastrum Lyttæ		7	6
—— Hydrargyri		3	0
Extractum Cinchonæ	unc.	3	0
—— Cinchonæ resinos.		5	0
—— Colocynthidis		3	6
—— Colocynthidis comp.		1	6
—— Conii		0	8
—— Gentianæ		0	6
—— Glycyrrhizæ	lb.	4	6
—— Hæmatoxyli	unc.	0	8
—— Humuli		0	0
Extractum Hyosciami	unc.	1	0
—— Jalapæ - *2s. 0d.*	Res.	3	6
—— Opii		3	6
—— Papaveris		1	0
—— Rhæi		2	6
—— Sarsaparillæ		1	0
—— Taraxaci		0	8
Ferri carbonas	lb.	1	0
— sulphas		1	3
Ferrum ammoniatum		5	0
—— tartarizatum		4	6
Galbani Gum-resin.		10	0
Gentianæ Radix		1	0
Guaiacum		6	6
Hydrargyrus purificatus		5	6
Hydrargyri Oxymurias	unc.	0	9
—— Submurias		0	9
—— Nitrico-Oxydum		0	9
—— Oxydum Cinereum		1	4
—— Oxydum rubrum		5	6
Hydrargyrus præcipitatus albus		0	9
Hydrargyri Sulphuretum rubrum		0	8
Hellebori nigri Radix	lb.	2	6
Ipecacuanhæ Radix		18	0
—— Pulvis		20	0
Jalapæ Radix		6	3
—— Pulvis		7	0
Kino		12	0
Liquor Plumbi Acetatis	M. lb.	1	8
— Ammoniæ		2	6
Linimentum Camphoræ comp.		6	0
Lichen Islandicus	lb.	1	8
Lyttæ		14	0
Magnesia		9	0
Magnesiæ Carbonas		3	0
—— Sulphas, opt.		1	4
Manna optima		7	6
— communis		5	6
Moschus pod, *28s.*	in gr. unc.	36	0
Mastiche	lb.	6	6
Myristicæ Nuclei		24	0
Myrrha electa		8	6
Olibanum		3	0
Opoponax		26	0
Opium (Turkey)		36	0
Opium (East India)		34	0
Oleum Amygdalæ	lb.	4	0
— Anisi	unc.	2	9
— Anthemidis		6	0
— Cinnamomi et Cassiæ		8	0
— Caryophilli		5	6
— Cajuputi		6	6
— Carui		1	9
— Juniperi Ang.		4	0
— Lavendulæ		4	0
— Lini	cong.	7	6
— Menthæ piperitæ	unc.	5	0
Oleum Menthæ viridis Ang.	unc.	5	0
— Olivæ	cong.	26	0
— Olivæ secundum		16	0
— Pimentæ	unc.	5	0
— Ricini optim.	(per bottle)	10	6
— Rosmarini	unc.	0	9
— Succini *2s. 4d.* ——	rect.	4	0
— Sulphuratum	M. lb.	1	6
— Terebinthinæ		1	9
— — rectificatum		2	3
Papaveris Capsulæ	(per 100)	3	6
Plumbi Carbonas	lb.	0	8
— Superacetas		2	6
— Oxydum semi-vitreum		0	8
Potassa Fusa	unc.	0	9
— cum Calce		0	6
Potassæ Nitras	lb.	1	0
— Acetas		8	6
— Carbonas		1	6
— Supercarbonas		4	6
— Sulphas		1	4
— Sulphuretum		2	6
— Supersulphas		0	6
— Tartras		3	6
— Supertartras		1	10
Pilulæ Hydrargyri	unc.	0	9
Pulvis Antimonialis		0	8
Resina Flava	lb.	0	5
Rhæi Radix (Russia)		34	0
—— (East India)		16	0
Rosæ Folia		9	0
Sapo (Spanish)		2	6
Sarsaparilla Radix		7	0
Scammoneæ Gum-Resina	unc.	2	6
Scillæ Radix siccat	lb.	5	6
Senegæ Radix		4	0
Sennæ Folia		7	0
Serpentariæ Radix		24	0
Simaroubæ Cortex		4	6
Sodæ Boras		4	8
— Sulphas		0	10
— Carbonas		7	0
— Subcarbonas		1	8
— — exsiccata		5	0
Soda tartarizata		3	0
Spongia usta		24	0
Spiritus Ammoniæ	M. lb.	4	0
—— —— aromaticus		4	0
—— —— fœtidus		4	0
—— —— succinatus		5	0
— Cinnamomi		3	0
— Lavendulæ		4	6
— Myristicæ		3	6
— Pimentæ		3	6
— Rosmarini		4	0
— Ætheris Aromaticus		6	6
— — Compositus		6	6
— — Nitrici		4	0
— — Sulphurici		6	6
— Vini rectificatus	cong.	28	0
Syrupus Papaveris	lb.	2	0
Sulphur		0	8
— Sublimatum		0	8
— Lotum		1	0
— Præcipitatum		1	2
Tamarindus opt.		2	6
Terebinthina Vulgaris		0	10
Terebinthina Canadensis		7	6
Terebinthina Chia		9	0
Tragacantha Gummi		9	6
Valerianæ Radix		1	10
Veratri Radix		1	6
Unguentum Hydrargyri-fortius		5	6
—— —— Nitratis		2	8
—— —— Nitrico-oxy.		3	0
Uvæ Ursi Folia		2	6
Zinci Oxydum		6	0
— Sulphas purif.		2	6
Zingiberis Radix opt.		2	6

Prices of New Phials per Gross.——8 oz. *70s* —6 oz. *58s.*—4 oz. *47s.*—3 oz. *45s.*—2 oz. and 1½ oz. *36s.*—1 oz. *30s.*—half oz. *24s.*———The London Glassmen allow 10 per Cent, ready money.———The Manufacturers in the Country, where all Phials are made, allow 7½ discount, at three months credit, (carriage free,) to London.

Prices of second-hand Phials, cleaned, and sorted.———8 oz. *46s.*—6 oz. *44s.*—4 oz. *35s* 3 oz. *30s.*—2 oz. and all below this size, *23s.*—Three months credit.

English Hirudines, *8s.* per dozen at Covent Garden Market.

MONTHLY CATALOGUE OF BOOKS.

Hints on Hydrophobia. By Henry Edmonston, A.M. Surgeon, Newcastle. 8vo. Craddock and Joy.

Observations on Pulmonary Consumption. By Henry Herbert Southey, M.D. 8vo. Longman & Co.

Some Enquiries into the Effects of Fermented Liquors. By a Water Drinker. 8vo. Plates. Johnson & Co.

Traité des Poisons tire des Regnes Mineral, Vegetal, et Animal, ou Toxicologie Generale considerée sous les Rapports de la Physiologie, de la Pathologie, et de la Medecine Legale. Par M. P. Orfila. 2 tom. Callow.

St. Thomas's and Guy's Hospitals.—The Winter Course of Lectures at these adjoining Hospitals will commence in the first week of October.

Dr. Adams will commence his Autumnal Course of Lectures on the Institutes and Practice of Medicine, at his House, Hatton Garden, on Tuesday, the 4th of October, at ten o'clock in the morning.

Dr. Clough, Berners Street, will commence his Autumnal Course of Lectures on the Science and Practice of Midwifery, including the Diseases of Infants, on Monday, October 10th, at half-past ten in the morning, and in the evening at seven.

Dr. Clutterbuck will begin his Autumnal Course of Lectures on the Theory and Practice of Physic, Materia Medica, and Chemistry, on Wednesday, the 5th of October, at ten o'clock in the morning, at his House, No. 1, in the Crescent, New Bridge Street, Blackfriars.

Dr. Merriman's usual Courses of Lectures on Midwifery will be delivered at the Middlesex Hospital. The Introductory Lecture will be read on Monday, October 3rd, at half-past ten o'clock.

Dr. Clarke and Mr. Clarke will begin their Winter Courses of Lectures on Midwifery and Diseases of Women and Children, on Tuesday, October 4th. For particulars, enquire of Dr. Clarke, New Burlington Street, or of Mr. Clarke, at the Lecture Room, No. 10, Saville Row.

INDEX INDICATORIUS.

We wish we could give our Friend, the Aberdeen Inquirer, *that precise direction he desires. Vegetable Chemistry is yet in its infancy; and it is impossible to point out any particular work where the subject is fully treated. But there are many in which much useful information may be found: particularly the Annales de Chimie, Tromsdorf's Journal, and the English Philosophical and Medical Journals.*

Mr. I. Williams's *case with the Drawing is come to hand, for which he will accept our thanks. To our* Sunderland Friend *we are much indebted for his prompt attention to the wish we had expressed, and for his kind offer, which we hope he will perform when opportunity occurs, without waiting for our application. We trust one of our correspondents will excuse the great alterations we have taken the liberty of making in his communication. He will perceive we have availed ourselves of the information his letter conveyed, and given that which he sought, avoiding only that personality which it is our desire always to shun, and our duty to deprecate.*

Communications are received from Dr. Clough, Mr. Rogers, Mr. R. Williams, Medicus, a young Surgeon, Amicus Scientiæ, Mr. Weaver, &c.

Dr. Mills' *favour of the 30th of July is come to hand; but the frank that contained it bore date the 16th of August; consequently, with the best wishes, it was impossible to comply with his request in the present Number.*

Mr. W. Newnham *receives our thanks for his friendly offer, which we gratefully accept.*——Mr. Chapman's *and* A. M.'s *cases are received.*

We have had several queries, requesting an explanation of the Letters forming the word "Hippocrates" on our cover, and particularly one signed Tyro, *to which we have often meant to reply; we embrace the present opportunity of* instructing Tyro, *and informing others, that the word is a fac-simile from the inscription of a votive tablet, brought from Greece by Lord Elgin.*